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Just The Facts:

What Makes Digi-Paint 3 the Ultimate Paint Program?

"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

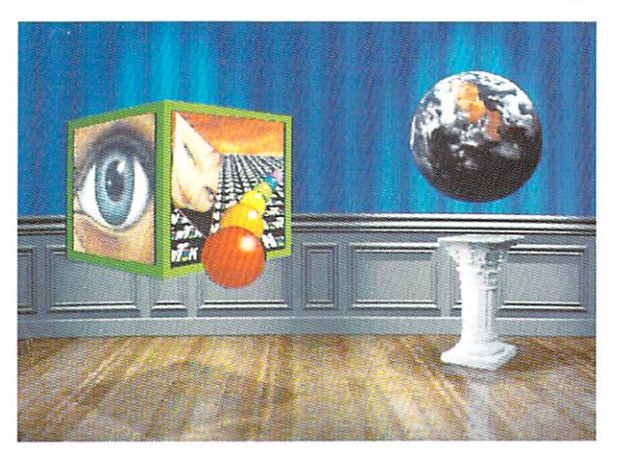
Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3 – including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting – are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"

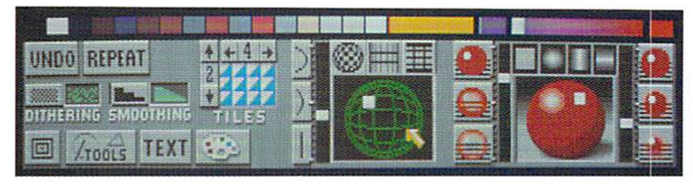


"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"





"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind – from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".



"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."

"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at 1-800-736-7617 Monday through Friday, 8 am -7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call
1-800-843-8934 or **1-913-354-1146.**



Digi-Paint 3, Digi-View, and Transfer 24 are trademarks of NewTek Inc.
DeluxePaint III is a trademark of Electronic Arts.
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The easy-to-learn, simple-to-use desktop publishing program for quickly creating all kinds of great looking documents.

Gold Disk PageSetter II gives you High Quality Low Cost Desktop Publishing For Dot Matrix Printers. Gold Disk PageSetter II will help you quickly and easily produce any kind of document: newsletters, flyers, resumes, ads, brochures, and more.

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PageSetter II is easy to learn and simple to use. Import text from any Amiga word processor or type directly onto your page. Use multiple type faces and type sizes. *You can even fill text with user specified patterns.*

Import bitmap graphics from any Amiga IFF paint program and structured graphics from Professional Draw. PageSetter II will automatically convert your graphics into high quality grey scaled images.

Based on Professional Page

Gold Disk PageSetter II is based on Gold Disk's Professional Page - the leading DTP package on the Amiga - and features many of the same powerful capabilities and the same high level of reliability.

High Quality Output

Because PageSetter II uses the same AGFA Compugraphic Outline fonts as Professional Page, you can ouput your pages at the highest resolution of any preference supported printer. This means you get smooth, jaggie-free, text and graphics regardless of the type of printer - dot matrix, inkjet, or laser.

Key Features

Layout:

- Page sizes to 8-1/2" x 14"
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Quickly combine text and graphics for dynamic results

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AGFA Compugraphic Fonts mean no more jaggies

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Requires Amiga w/ 1 MByte, 1 Drive

Gold Disk PageSetter II is available for $129.95. Current PageSetter owners can upgrade for $59.95. If you are a registered owner, please call 1-800-387-8192 to upgrade; otherwise, send payment with manual cover or program disk.

Gold Disk Advantage

The Power Spreadsheet You Can Count On

Gold Disk Advantage is the most powerful integrated spreadsheet, database, and business presentation package on the Amiga.

It devastates its competition in every category and offers unprecendented business graphic capabilities.

Feature Comparison		
	Gold Disk Advantage	**Maxi Plan**
Max size	65000 x 65000	512 x 32760
# of sheets	Unlimited	3
# of graphs	Unlimited	8
Max graph colors	16	8
# of views	Unlimited	No
Sideways Printing	Yes	No
# of funcs	90+	66
ARexx	Yes	No
Performance Comparison		
Redraw	0.87	2.35
Save	2.23	5.33
Load	3.84	6.69
Recalc		
First	2.44	5.15
2nd*	0.19	4.30
2nd**	2.24	4.88
Memory	43216	69832

* With no changes in sheet;** With changes made to sheet
Tests on 1 Mb Amiga; Spreadsheet: 9 rows x 44 columns

Gold Disk Advantage is available for $199.95. If you own any other spreadsheet you can upgrade for only $100. Please send payment along with the cover page of the spreadsheet manual.



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FEBRUARY 1990

·C·O·N·T·E·N·T·S·

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COLUMNS

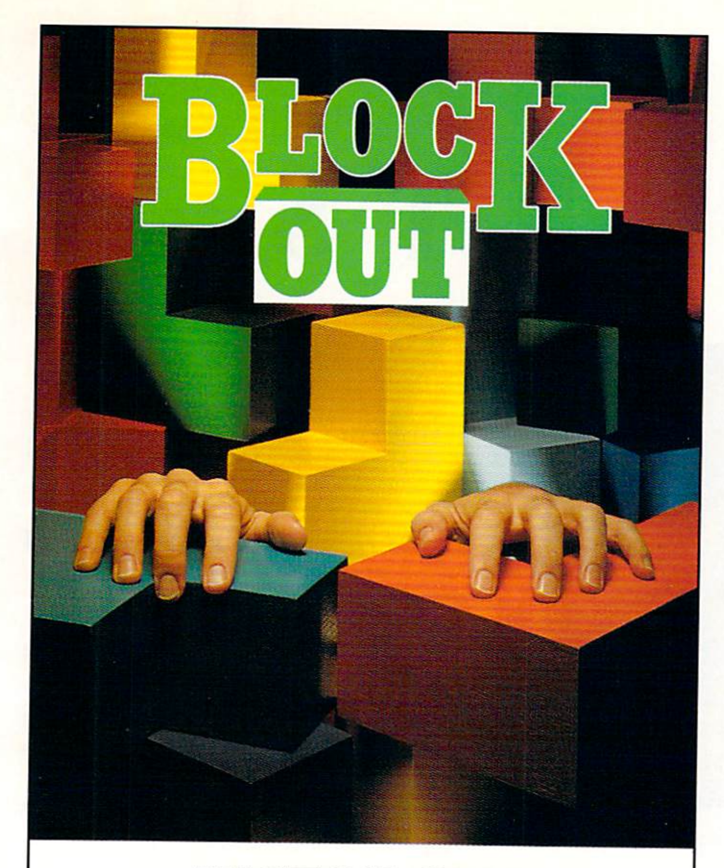
Multimedia's hot new juggling act—p. 22.

DEPARTMENTS

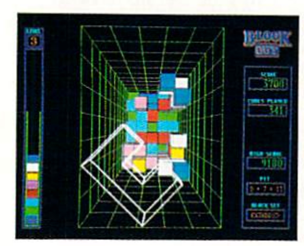
REVIEWS

GAMES

COVER ILLUSTRATION BY R.M. SCHNEIDER



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Be Careful! You will be buried alive by the addictive 3-D challenge of BLOCKOUT™.

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MEREDITH BICKFORD, *Advertising Coordinator*
GIORGIO SALUTI, *Associate Publisher, West Coast Sales 1-415-363-5230*
2421 Broadway, Suite 200 Redwood City, CA 94063
SHELLEY HARMON, *Associate Sales Representative, InfoMarket Sales, 1-415-363-5230*

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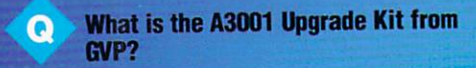
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Before you buy an A2500

READ THIS FIRST!

(or before you even add a hard drive to your A2000)

Upgrade your A2000 to an "A3000 (PLUS 1)" TODAY! With the 25Mhz 28 Mhz 68030, A3001 Upgrade Kit from GVP



Q What is the A3001 Upgrade Kit from GVP?

A The A3001 Upgrade Kit includes the following:

- 25Mhz 68030 accelerator board for the A2000.
- Factory installed 25Mhz 68882 Floating Point Processor.
- 4 or 8MB of 32-bit wide high performance 80ns NIBBLE MODE DRAM.
- Built-in AUTOBOOTing HIGH PERFORMANCE hard disk controller.
- Quantum 40MB or 80MB hard disk drive with an average read access time of 11ms (19ms on write) and 64KB read-ahead cache. If you already own a hard disk, this item can be optional.

Q What does the A3001 really do for my A2000?

A The A3001 provides the following, UNBEATABLE and UNMATCHED features:

- The world's fastest (and shipping in volume!) accelerator board for the Amiga.® The 68030 CPU includes an on-chip MMU and separate data and instruction caches. According to a recent review in the German "Amiga Magazin," performance is between TWO AND THREE TIMES FASTER THAN THE A2500.
- One of (we are being modest!) the world's fastest hard disk controllers. Measured with "diskperf2," data transfer rates of well over 700KB/sec are achieved. Of course this is not surprising as the hard disk controller is built-in directly on the 32-bit bus of the 68030 accelerator board!
- The up to 8MB of 32-bit wide DRAM is fully DMA-able (can be directly accessed by any DMA device) and is automatically AUTOCONFIGured. The A2500 is limited to only 4MB of (slower) 32-bit wide DRAM.
- GVP's unique DRAM design uses state-of-the-art 80ns NIBBLE MODE DRAMs, which allows full support and advantage to be taken of the 68030's BURST mode. In fact during burst mode, this amazing design manages to achieve an average of ZERO WAITSTATES even at 25Mhz! This DRAM design is similar to that used in Steve Jobs' NeXT® machine, although that design (according to the BYTE magazine review) uses more CPU waitstates at 25Mhz!
- 68000 fallback mode allows the 68030 CPU to be disabled, to ensure full compatibility with timing sensitive applications (e.g.: some game programs).
- Sockets are included for 68030 BOOT EPROMs, allowing future flexibility for running other operating systems.
- GVP's unique ASYNCHRONOUS design means that the 68030 has its own dedicated oscillator and runs completely ASYNCRONOUS to the rest of the A2000. This means better GENLOCK compatibility (not as sensitive to motherboard clock source) as well as providing the ability to run at any clock speed completely independently of the A2000 motherboard, limited only by the access speed of the DRAMs being used.
- For the REAL, math intensive, number-crunching fanatics there is an optional oscillator socket, allowing the 68882 FPU to be independently clocked at even higher speeds (e.g.: 33Mhz).
- ZERO SLOT SOLUTION! With the full-blown configuration installed (25Mhz 68030 & 68882, 8MB of 32-bit wide RAM and one or two AUTOBOOTing 40MB or 80MB hard disks), the A3001 STILL LEAVES ALL THE A2000 EXPANSION SLOTS FREE FOR FUTURE EXPANSION! The only slot in the A2000 which is used is the Co-processor/CPU slot. An equivalently configured A2500 would use an additional TWO valuable expansion slots!

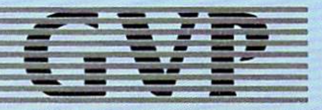
Q This sounds great, but what if I can't afford to buy the full A3001 kit now and all I need urgently is a hard disk drive for my A2000?

A GVP also offers an "a la carte" approach to purchasing the A3001 kit. For example if you are about to purchase a hard disk drive and controller for your A2000, for only a little more you could instead buy the GVP 25Mhz 68030 accelerator board with its built-in AUTOBOOTing hard disk controller and the 40MB hard disk (suggested list price for both is only $1495). You would obviously not get the full performance increase mentioned above, until you added our 32-bit wide RAM daughterboard and the 68882 FPU. However, in this case your initial hard disk outlay is not lost and it can be regarded as a "down payment" on your full-blown 32-bit workstation! If you are working on a REALLY tight budget, call us and ask about our "A2501" upgrade kit for the A2000, which outperforms the A2500 with its 16Mhz 68030! This is also available in "a la carte" form!

Q Why did GVP call this the A3001 upgrade kit?

A The A3001, stands for "A3000 PLUS 1"! Yes, we believe that this solution offers everything the "A3000" may offer PLUS...!

Why wait, upgrade your A2000 to an A3001 today!



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225 Plank Ave., Paoli, PA 19301

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CHIEF CONCERNS

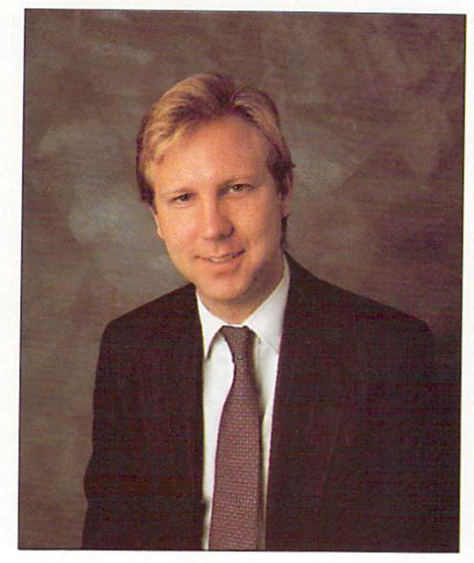
You do the yelling, we'll do the listening.

SINCE JOINING *AMIGAWORLD*, I've gotten more than a few earfuls. One reader hated my use of the word "ain't." Others blasted us about reviews they didn't agree with, and some despised my editorials, which admittedly and purposefully overgeneralized and stereotyped users of other computers. These editorials have been called stupid; they have even been likened to the propaganda that fueled Germany in the Second World War. The majority, reading the very same columns, loved them.

We don't mind getting yelled at. In fact, it shows that you are paying attention, and it helps us put out a better magazine.

We get yelled at for what we write about the Amiga. But why not also yell at those who ignore the Amiga? That is one of the key points of the grassroots-oriented Amiga Developers Association that I announced in last month's editorial. This association does not officially begin until next month, but why wait? Why not start making some noise now?

I read a lot of computer publications, and scrutinize them for Amiga content. There ain't (pardon me, isn't) much. To change this, we've identified the most important non-system-specific computer magazines. We are taking the liberty of listing them for you (including one important business magazine), along with their addresses and telephone numbers. Write them, call them, and tell them your story. Keep in mind, though, that these publications primarily cover the business market, and they need to know how the Amiga is used in those environments.



InfoWorld (1060 Marsh Road, Suite C-200, Menlo Park, CA 94025, 415/328-4602)

InfoWorld is one of the oldest and most prestigious of the PC news weeklies. Its focus is on IBM PCs and Macintosh computers, but has aggressively added workstation coverage. If they are going to cover the Amiga, they need to see it used in a business environment, such as for CAD, presentations, applications development, video, or whatever.

Computerworld (375 Cochituate Road, Framingham, MA 01701, 508/879-0700)

Computerworld is the granddaddy of computer newspapers. Like *InfoWorld*, they need to see the Amiga being used for serious applications. Unlike *InfoWorld*, *Computerworld* loves to write about specific, unique, and interesting uses of computers. If you are doing something wild with your Amiga, drop these folks a line. They just might write a story about you! By the way, *Computerworld* has recently had some very good Amiga coverage.

PC Week (800 Boylston Street, Boston, MA 02199, 617/375-4000)

This publication is interested in hot news—something the Amiga hasn't been for a while. We need to make it hot. Let these folks know about the exciting applications available on the Amiga, like video and multimedia. They'll come around.

Byte Magazine (One Phoenix Mill Lane, Peterborough, NH 03458, 603/924-9281)

According to our sources, *Byte* already gets a disproportionate number of letters from Amiga owners. A few more won't hurt, though.

Computer Reseller News (CMP Publications Inc., 600 Community Drive, Manhasset, NY 11030, 516/562-5000)

This newspaper was one of the first trade publications to realize that the Amiga exists and may well have a bright future. We should let them know we appreciate the excellent coverage they have given the Amiga, and to keep up the good work.

Businessweek (McGraw-Hill Building, 1221 Avenue of the Americas, New York, NY 10020, 212/512-2000)

This magazine recently published a seven-page article about multimedia, with only one paragraph about Commodore, which the author called the leader in this field. I've spoken with some of their technology reporters who are curious about the Amiga. Let's make them more curious with a big batch of letters.

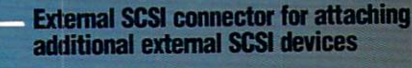
So, by all means, keep yelling at us. We are listening, and reacting to your comments (less stereotyping on the way). But let's also start yelling (nicely and logically, of course) at those who have yet to catch Amiga fever. ■

Doug Barney

Hard-Disk-On-A-Card

THE BEST JUST GOT BETTER

Now we have added 2MB of Zero-Waitstate FAST RAM Expansion to our best-selling Hard-Disk-On-A-Card!



External SCSI connector for attaching additional external SCSI devices

20MB to 102MB factory installed hard disk drive. Access times from 11ms to 40ms

2MB of FAST RAM expansion using easy-to-install, state-of-the-art SIMMs

The Proven GVP Hard-Disk-Card + 2 now gives you even more for less. Compare:

SAVES EXPANSION SLOT Now you can have a high performance SCSI controller and 2MB of Fast RAM expansion in a single A2000 expansion slot.

SAVES A PERIPHERAL BAY Saves a valuable peripheral bay by mounting the hard disk directly (flush) on the SCSI/RAM controller board.

PERFORMANCE With close to 10,000 Amiga hard disk controllers installed, our performance and reliability needs no further explanation. Our unique DMA direct to onboard 16KB buffer has received rave reviews around the world. Don't ask us, just ask one of our many satisfied customers! Very FAST AUTOBOOTing directly off a hard disk FAST FILE SYSTEM partition, is a standard feature.

EXPANDABILITY By saving both a valuable expansion slot as well as a scarce peripheral bay, your Amiga retains maximum expandability.

FLEXIBILITY With our optional Advanced AUTOBOOT EPROMs, we fully support removable media devices (e.g.: Syquest and Bernoulli drives) with our unique "AUTO-DISKCHANGE" feature.

PRICE Priced less than most single function controllers. No matter how you look at it you get unbeatable value. Look at the 2MB FAST RAM expansion capability as an (almost) free bonus.

QUALITY All GVP products are backed by our full one year warranty.

NEW!

Removable Hard Drive 44MB Removable Storage *

IMPACT WT-150 Streaming Tape Backup *

Experienced computer users know the importance of making regular backups. A typical 40MB hard disk will take over FORTY-FIVE 880K floppy disks to back-up. The job can easily take over an hour of repetitive disk swapping. There is a better way!

The NEW GVP IMPACT WT-150 Streaming Tape Backup product offers a high capacity (150MB), high speed, streaming tape drive bundled with probably the best and most flexible backup tape software utility in the industry. This incredible piece of software, which we have called ***TapeStore,***™ makes backups simple, interesting and exciting.

TapeStore can back-up and restore everything from individual files (File-by-File mode) to entire disk partitions (Disk Image mode). Support for the portable, industry standard, Unix tape format (tar) is planned for the near future.

TapeStore is designed for novices and experts alike: it can be run from the workbench or the CLI. It can be operated using a few simple mouse clicks for daily back-ups, or used to create archive tapes for transferring large amounts of information between machines. Anyone can supply a piece of hardware but ONLY GVP provides the TOTAL SOLUTION. Once again GVP has come up with a winner!



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* GVP SCSI host adapter required

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REPARTEE

Comments, complaints, and concerns

from AmigaWorld *readers.*

BAY BLUES

I HAD BEEN waiting, since about the time I bought my Amiga 2000, for an AmiEXPO or equivalent to come to the San Francisco Bay area. When I saw an ad for the October AmiEXPO in Santa Clara, I immediately made plans to attend with my friend. We were looking forward to games the most, but we were interested in other products, too.

Getting to the show required us to use public transportation, because we are both 15. We took a bus, then a train, a bus again, then a light rail. The commute from Marin County took just over four hours; we spent less than two at the show. About one fourth, maybe even one third, of the listed companies did not show up, obviously because of the earthquake.

I feel that the show should have been canceled. The show did go on, though, and it was a complete disaster compared to what was forecasted. I hope that AmiEXPO officials decide to hold another show in the San Francisco Bay area.

Max Watson
San Anselmo, CA

DOUG DIGS

I FOUND Doug Barney's December '89 editorial ("Chief Concerns," p. 6) to be immature and offensive. I sincerely hope that it was written to provoke angry replies, and not that he actually thinks this way. If this type of prejudice can get into the editorial of a popular magazine in an enlightened society, then we have some major problems on our hands.

I happen to be one of the many people who own and use many types of computer systems. The way *not* to attract people to the Amiga is to call other computer choices dumb, boring, uncool, etc. We should accept people for what they are, and not what computer choice (or ethnic background, religious belief, car model, etc.) they choose.

Ed Parry
Sepulveda, CA

DIGS DOUG

WHEN I READ the Nov. '89 Chief Concerns column, I was pretty sure that I was going to like Doug Barney. Having just finished the Dec. '89 Chief Concerns, I'm a fan 100 percent! He has expressed many of what I am sure are typical Amiga owner's frustrations.

Let me share just one of my private triumphant moments: A former colleague of mine told me excitedly about a "new" educational game (for his IBM clone) that—get this—talks to the child! I got away as quickly as possible so that I could laugh out loud. This is the same person who, when I bought my A1000, sneered and asked "When are you going to buy a *real* computer?"

Thanks for expressing some of my deepest sentiments so accurately, Mr. Barney.

Susan O'Neill
Toledo, OH

BUYER'S GUIDE ERRATA

BUYER'S GUIDES give rise, regettably, to both sins of omission and commission. The November '89 Games and the December '89 Applications Software Buyer's Guides were no exception. In hopes that you, our readers, have forgiving natures, the following is submitted:

Telephone corrections:

Megagem: 805/349-1104

Rainbows Edge Productions: 718/965-1922

Tensor Productions: 805/685-6245

Missing from the company lists:

MicroSystems Software, 12798 Forest Hill Blvd., Suite 202, W. Palm Beach, FL 33414, 305/790-0770.

Capcom U.S.A. Inc., 3303 Scott Blvd., Santa Clara, CA 95054, 408/727-0400.

Distributor/Product corrections:

Archipelagos is a Brittanica/FanFare game title.

Anti Virus ($19.95), a virus protection utility, was inadvertently omitted, as well as the manufacturer's name and address: Devware, PO Box 215, La Jolla, CA 92038, 619/673-0759.

Brown-Wagh Publishing distributes products for the following companies: Circum Design, PAR Software, Softwood Company (Easy Ledgers Accounting program, $295), Sybiz Software, and TRS Labs.

C-ZAR and MidiVU music programs were incorrectly matched with Centaur Software. Centaur is not the exclusive distributor. The correct vendor is Diemer Development, 12814 Landale, Studio City, CA 91604-1351, 818/762-0804.

The latest version of ProWrite is 2.5, not 3.0 as listed.

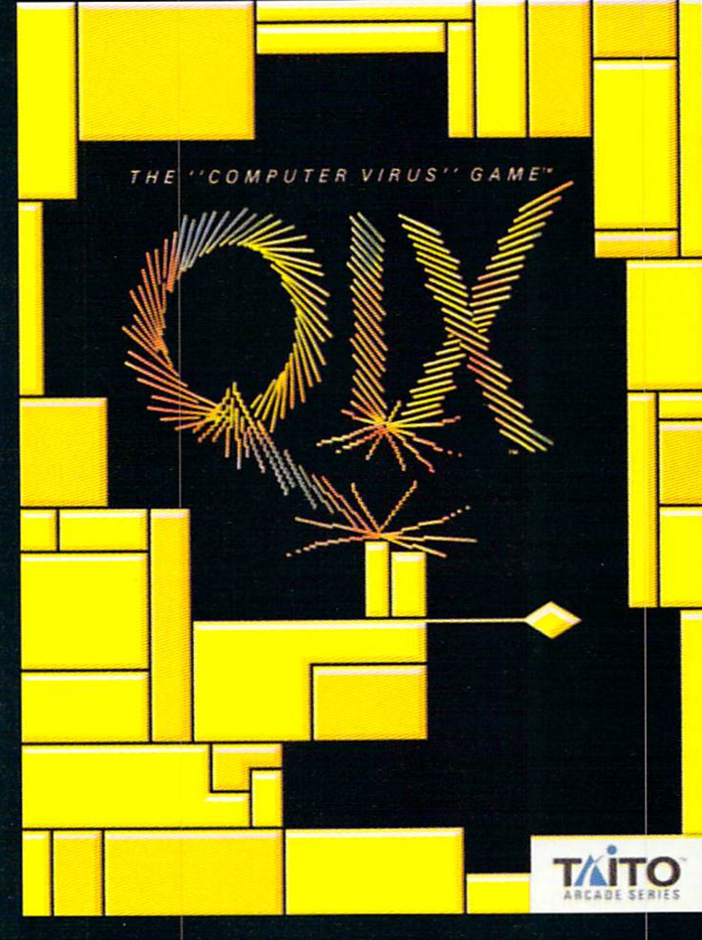
Tangent 270's clip art ($29.95–49.95) products are: Map Pics-World, Aircraft Heraldic, China, Christmas, and Bird Pics.

Zuma Group carries the following: TV*SHOW ($99.95), a special-effects generator; TV*TEXT ($99.95), a character generator; and TV*TEXT Pro ($169.95), for titling and graphics with special effects.

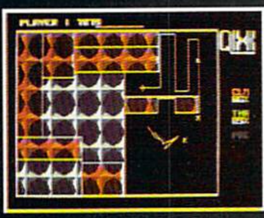
Send your letters to: Repartee, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

VIRUS!

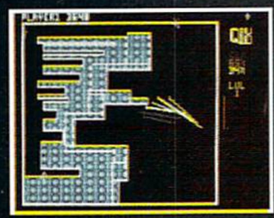
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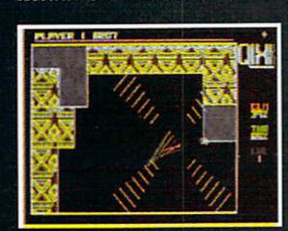
When QIX fever strikes, there is no cure! Like the mind-blowing arcade original, QIX is a computer virus that lives deep inside your computer, attacking without warning. Construct a trap in any one of the billions of configurations possible to immobilize QIX. But watch out for SPARX™ and SPRITZ™ and other deadly energy forms! In this electrical world of high-tech infections, mental dexterity and superior strategy are basic to survival. The practice mode turns beginners into addicts. No one is immune! Get your QIX before QIX gets you!



Actual Atari screen.



Actual C/64 screen.



Actual Amiga screen.



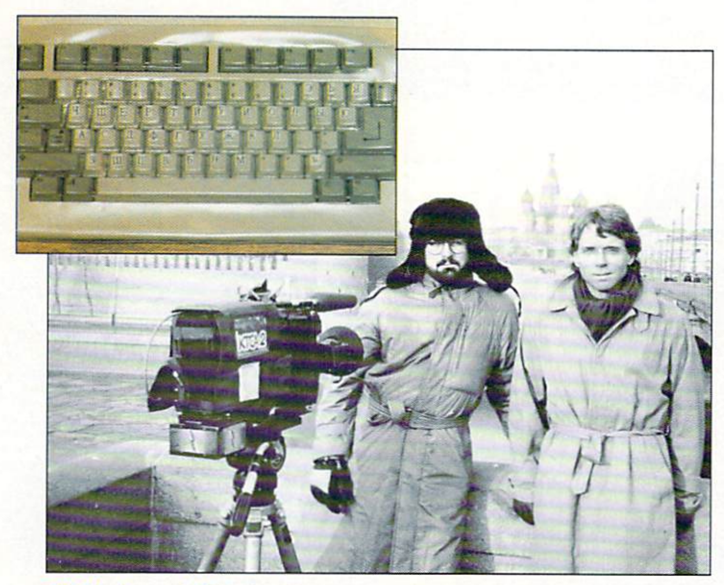
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NOTEPAD

Compiled by Barbara Gefvert Tyson



Bill Hanley and Nicholas Hayes on assignment in Moscow, and (inset) Hanley's Cyrillic-alphabet keyboard template.

As the Russians Do

WESTERN VISITORS TO the Soviet Union are often stymied by the bureaucratic entanglements associated with its less-than-open society. But Bill Hanley, Executive Producer for news and public affairs programming at KTCA-TV (a PBS affiliate in Saint Paul, Minnesota) has found a way to cut through the "red" tape—using an Amiga.

In 1985, Hanley began visiting the USSR with Nicholas Hayes, Professor of Soviet Studies at Hamline University, to prepare segments for the *McNeil/Lehrer News Hour* and for a nationally syndicated documentary series on Soviet television called *Channel 3 Moscow*. One key to Hanley and Hayes' success at getting an inside look at Russia's state-run television industry has been the ability to present their paperwork in Russian, to speed processing and as a courtesy to Soviet officials and bureaucrats. The pair used a Cyrillic-alphabet manual typewriter until they discovered the public-domain file Moscow.font, an Amiga screen-font representation of the Cyrillic alphabet in two sizes (15 and 26 points). Soon Hanley created an overlay for his A500 keyboard from a plastic dust cover. This allows him, Hayes, and their Russian translator Basil Ivanoff, to create documents and label illustrations in Russian using word processors and paint programs.

Using multiple font sizes and graphics, Hanley and Hayes can create very attractive documents quickly, and then alter them easily. Said Hanley, "It is really nice to meet with Soviet officials, hand them an outline of our proposals, and get feedback immediately as opposed to waiting weeks for them to translate our request and reply. In addition, because personal computers are a scarce commodity in the Soviet Union, our documents have a certain novelty effect which definitely gets us noticed."

—Loren Lovhaug



Show Down

AT THE NOVEMBER 1989 Comdex, Commodore wisely moved in near the concession stand. The hungry hundreds and thirsty thousands got some break-time entertainment from a slew of Amigas displaying animation, video, and desktop-publishing demos. Those drawn into the booth saw a 68030 Amiga scorching through applications. Yes, Commodore's prominence at the business peoples' show certainly heightened awareness: I even spotted a *New York Times* reporter dashing over to Commodore's booth to see what all the fuss was about. *—DB*

As the 28 year-old wall opened up in Berlin, another show—the first annual Amiga '89—opened in Cologne, West Germany. Print Technik, from West Germany, demonstrated a line of scanners and digitizers, including two black-and-white photocopier-style models: the stationary 600 × 300 dpi Professional Scan and the 200 dpi Universal Scan. Print Technik's Optical Character Recognition Software, which reads type-written text, works with any of the company's scanners. Gigatron, also German, announced the imminent release of an Amiga laptop computer (with a Fat Agnus chip and either LCD or plasma display), and a motherboard replacement for the A500 offering up to 16MB of RAM and a 2½-inch 20MB hard disk.

Skyline Computer and Vortex Computersystem (both of West Germany) chipped away at data storage with hard drives for all Amiga models. Germany's X-pert Computer Services drew crowds with a 40MHz 68030 board and Black Tower, a space-saving housing for your A2000 CPU and peripherals. The encore show will be Nov. 8-11, 1990 in Cologne. *—BGT*



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• VINDICATORS: Amiga, Atari ST Coming Soon: C-64/128, IBM, Apple II GS
• XYBOTS: C-64/128, Amiga, Atari ST. Coming Soon: IBM
• ROLLING THUNDER: C-64/128
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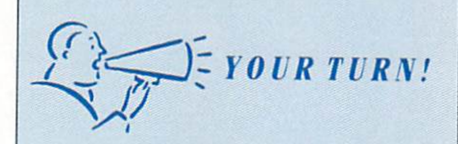
TV*Text Professional

A middleweight winner that may take the heavyweight title, too.

By Gary Ludwick

JUST A FEW years ago, when Amiga owners wanted a video-titling program, the choice was simple because there was only one available: TV*Text. Over the last year, the field exploded. From $50 to $300, there are all manner of such programs on the market. Now the folks at Zuma Group, who helped create this category of software, have come back with TV*Text Professional.

Not a replacement for the venerable TV*Text, TV*Text Professional is an entirely new entry, and while it is true that there are similarities in the looks of the two programs, they are indeed distinctly different. TV*Text Professional leads off its new approach with a wide variety of screen resolutions. Offering low and high resolutions with or without interlace, each with two (medium and high) overscan options, TV*Text Professional provides plenty of flexibility for most applications. Unlike some programs, TV*Text Pro does not let you select specific pixel resolutions (sometimes needed for exact matches with particular paint programs, and so on), but in truth this is a capability very seldom required. The 320×200 and 320×400 resolutions can use up to 64 colors, and in 640×200 and 640×400 modes you can display up to 16 colors. Use of overscan will not affect the number of colors, but it will eat up more memory.



TV*Text Professional is an excellent program that enables you to create logos and unusual text and backgrounds very quickly, and then exchange them with other programs.

—*Jack Jones*
Southbury, CT

A key issue with any titling program is fonts. TV*Text Professional is built around the Zuma Fonts collection, also from Zuma Group. Three font disks are included with the package, and you can order others. Perhaps more important, though, TV*Text Professional can be used with any Amiga bit-mapped font, and any that follow the ColorFont standard. To me, this ability to import other than proprietary fonts is a must-have feature for any titling program that wants serious consideration.

Personality Inventory

Resolutions and fonts are the foundation elements of a titling program. How those fonts are rendered into those screen resolutions...that's what determines the program's personality. TV*Text Professional has *a lot* of personality.

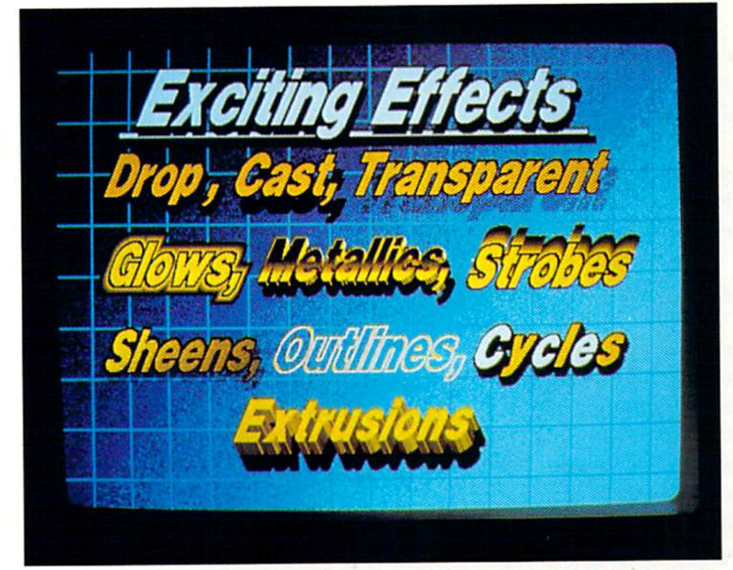
Perhaps taking a page from Aegis Video Titler's (Oxxi) book, TV*Text Professional has a wide variety of preset rendering styles. This means that you need not spend hours creating metallic or shimmering effects for your type because the work has already been done for you. Many of the typeface effects can use color cycling, so you get not only a highly sophisticated look, but glows, glimmers, glints, and sheens that appear animated. Color cycling is an often-overlooked "poor-man's" animation method, and TV*Text Professional has done an excellent job of putting it to work. Seeing reflected light move across a brushed-gold typeface in a convincing motion is very satisfying, especially when you know that it is the result of pressing just one button. As a bonus, your audience will think you spent hours achieving the effect.

TV*Text Professional's effects don't end with preset styles and effects, though. A built-in editor allows you to modify, expand, and combine, or create entirely new effects. These rendering effects can be applied not only to fonts, but also to shapes and imported IFF images (see photo). Outlines, strobe effects, 3-D extrusions, shadows, type outlines, edges, and metallics are all just seconds away from customization. Even the imaginary light source used in creating shadows and other effects is under your complete control. This flexibility and the ease of achieving it is very powerful stuff. While Video Titler also offers some very good preset effects, that program does not provide such an easy means of changing or customizing those effects.

TV*Text Professional includes a very good selection of drawing, editing, and background tools as well. Automatic shape generation (circles, boxes, borders, and so on) gives you even more creative

freedom for designing title pages, and you can combine these shapes with special effects (shadows, extrusions, and so forth). IFF images can be imported and used as backgrounds, as can objects such as logos designed in a paint program. You can flip and rotate objects automatically, and apply to them many of the aforementioned effects. When importing, TV*Text Professional lets you choose straightforward transfer, whereby the color palette is translated to the current screen palette, or the extremely powerful and useful Auto-Color mode wherein the program tries to match the original palette to those colors of the screen in use.

TV*Text Professional can create gradient dithered backgrounds in eight varieties, and allows you to use brushes or text to create wallpaper or tiled backgrounds. Grids are available, too. To make things easy, TV*Text Professional provides a software toggle switch to lock or unlock the background. Thus, text or titles in the foreground need not affect the background. A stencil mode handles the reverse situation.

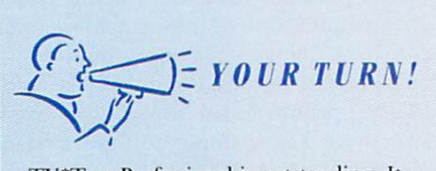


Combine or alter TV*Text Professional's preset rendering effects for individual flair, and style your background with dithering or some other treatment.

Flying Colors

A review can touch only on the highlights of TV*Text Professional, and the printed word can do just so much for a program so richly visual. TV*Text Professional is easy to learn and use, and produces exceptional results. It never crashed in my tests, and presented very few unwanted surprises. It is not perfect, but you really have to nitpick to find fault. For instance, the program does not supply a "clear screen" gadget, so if you make a mistake or change your mind, you nearly have to exit the program to make the alteration. I would also like to see TV*Text Professional offer some poly-fonts—fonts that can be bent, twisted, or otherwise distorted for special purposes such as wrapping around a circular surface. Automatic text wrapping on irregular surfaces would be nice, too.

Wish lists and pickiness aside, however, TV*Text Professional is a superb piece of work. The 218-page manual is a model of clarity and the tutorials do an excellent job of getting you up and proficient in a minimum amount of time. All this at a very reasonable price makes TV*Text Professional not only the mid-price titling winner, but a program even those with unlimited budgets should carefully consider. I could easily make a case that paying more for a video titling program is just that—but not getting more.



TV*Text Professional is outstanding. It is extremely flexible and solves so many problems with shadowing, sizing, and coloring. It is good for presentations and proposals, and recently I used it to create some great-looking signs quickly and easily. My only complaint is that it is fairly memory intensive.

—**Herb Albrecht**
Toronto, Ontario, Canada

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Amiga Logo

Learn programming with a fast turtle.

By David T. McClellan

BASED ON STUDIES in human learning at the Massachusetts Institute of Technology, Logo is a nifty, graphics-oriented kid-accessible programming language. Although I have been hearing ►

talk about an Amiga version of the language since before the A1000 was released, until now only a very limited public-domain version has been available for Amiga users. Now, at long last, Commodore itself has released Amiga Logo, and my kids are saved from BASIC at last!

The Logo language introduced "turtle graphics," a concept designed to help kids visualize the logic of computer programming. Logo asks the child to envision that programming commands can cause a turtle dragging a pen to move across the screen, and thus produce graphics. While Logo is a natural medium for children to think about drawing, planning, and processes, it's not just kidspeak—it also incorporates features suitable for college physics and mathematics. Amiga Logo is a pretty good version of the language and well adapted to the Amiga, although it does have some limitations. It provides menu options for many of the system controls, such as screen resolution, screen depth (number of colors), workspace management (save/load/quit), and painting with the mouse and on-screen turtle. There are both text and graphics windows. The latter is where painting takes place. The resizable text window, in which you enter and scroll through Logo expressions, provides a simple Emacs-like editor.

Using Amiga Logo is much like using any other interpretive environment, such as those for Lisp and APL. In fact, many of Logo's data structures and control primitives resemble Lisp. Logo is surprisingly fast, though—the little sprite turtle whizzes across the screen when drawing graphics. Procedures dealing with words and arithmetic execute about as fast as a good BASIC equivalent would. Best of all, Amiga Logo comes with a fine set of graphics primitives, and encourages you to add more. It provides a number of drawing modes: You can set pen colors; determine whether the pen is "down" (drawing), "up" (moving, not drawing), or erasing; move and turn the turtle along a path (forward or back any number of pixels, left or right some number of degrees); or teleport the turtle with SetPosition, SetX, and SetY. Logo also sports RGB color controls, area fills and floods, and window controls.

POWERFUL AS A LOGO-MOTIVE

Logo is not limited to a turtle making pretties on the screen, though. It has variables, numbers with full arithmetic, random numbers, and trig functions, parenthetical expressions, a number of property-testing primitives, words (names and strings), and lists. Words are strings of characters, ordinarily names such as you'd use in C or Modula-2, but they can also contain blanks, punctuation, and other characters. Also, you can dissect them with Logo primitives such as First, ButFirst (all elements except the first), Last, and Item (returns an indexed element).

Lists, sequenced data structures that can contain words, numbers, and even other lists, are even more general purpose (the sequence of items is delimited by square brackets). From lists you can build arrays, structs ("records" in Pascal), stacks, queues, and whatever else you need. Lisp users will recognize Amiga Logo's property lists, which act as associatively indexed arrays. Normal lists often contain sequences of Logo primitives and procedure calls; the if/then/else and looping primitives use lists as their block structures. For example, to draw a triangle with the Repeat primitive, you might enter:

```
PenDown
Repeat 3 [Forward 50 Right 120]
```

The Repeat commands enters a list of primitives any specified number of times. You can even construct a list of primitives and procedure calls on the fly (in your Logo program), and execute it with the Run primitive. For die-hards and special circumstances, Logo includes Labels and Gotos. It also has the Lisp-like And and Or primitives, to test several conditions and then return a true or false value according to its findings. There's a large set of comparison and feature-testing primitives for conditionals, too, such as "Empty?" which checks a list for its contents. Logo encourages you to write your own procedures, and to do top-down design as you build, calling other procedures and defining them as you need them. You define a procedure with the To command, specifying its arguments at the same time. To make a procedure of the triangle drawer above, you would enter:

```
To Triangle :length PenDown
Repeat 3 [Forward :length Right 120]
End
```

This triangle procedure has one argument—length—which is specified on the definition line. A procedure can have any number of arguments, but only system primitives can have optional ones. Logo procedures are recursive, can return values, and can use both local and global variables (Amiga Logo uses a sort of dynamic-scoping model, wherein a local variable overrides a global variable of the same name while its procedure is active). A deeply nested procedure can even return control to a higher-up caller in the event of an error with the Catch and Throw functions—unreeling the call stack as it passes control to the higher function. And just as Logo can run a fresh-made list, it can also define a procedure from a list you built. This allows a program to generate special code for handling dynamically built data structures, for example, and to generate new looping and conditional primitives, such as case statements.

Logo procedures can interact with the outside world. Logo can read a single keystroke or a whole line (which it treats as a list) at a time, and can print variables and procedure definitions. Amiga Logo can also read the position of the left mouse key, talk through the SPEAK: device, and send text and graphics windows to the printer. You can get a directory listing, and save, load, or erase files from the text window. The only disk-file interface Logo procedures have, however, are the abilities to save and load all or part of the workspace (selected vari-



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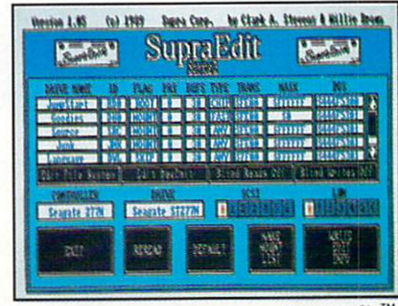
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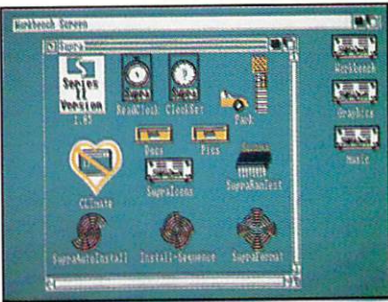


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ables and procedures can be "packaged," as with a Modula-2 module, independently). Further file-interaction capabilities, along the lines of ReadList and Print, would be appreciated.

Shell or High Water

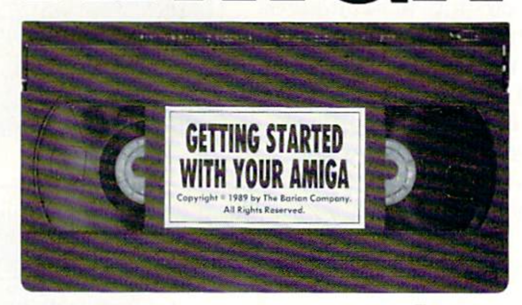
In the process of testing out a simple application involving several lists, we built some long list variables. We were able to save them, but in trying to reload the variables, Logo gave us an error: "Don't know how to]". I found it saved the workspace as a text file which, when read in and interpreted, would recreate the variables and procedures we had built. Unfortunately, the input code can handle input lines up to 240 characters only; a couple of lists had outgrown this limit, causing Logo to falter. (Thankfully, I was able to retrieve all our work by breaking up the lists and glueing them together with primitive calls over several input lines.)

Also, I could not find a way to imbed comments in a procedure. Logo encourages small procedures, but I like commenting my work and I want my kids to learn to do so as well. Finally, I would like to be able to break a list over more than one line as I enter it. As it is, if you hit the Return key while entering a list, Logo tacks a right bracket on the end and closes the list. Because lists are also used for block structuring, this is not my favorite option.

Overall, I like Amiga Logo. It's not the kind of language you want to add ISAM to and beat on a database with, but it's excellent for teaching the concepts and processes of structured programming to elementary- and middle-school kids. Josh, my 10 year-old, thinks Logo's neat and fun to figure stuff out with; nine-year-old Zach likes drawing and doing simple procedures, but feels programs take too long to type in. He's right. . . but that's not Amiga Logo's fault!

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By Lou Wallace

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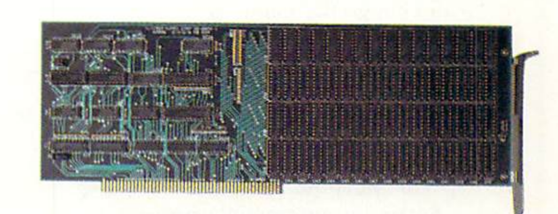


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Circle 88 on Reader Service card.

background task using RUNBACK (the ARP replacement for the AmigaDOS RUN command). This way it is always easily accessible.

Data entry is very easy, as the cursor jumps to the next field when you press the Return key. The eight default field names match those on the Rolodex cards (name, street, city, and so on). While you can change the names to use the program as a general-purpose file manager, you cannot add fields. By making duplicates of the non-copy-protected program, you can have several different mini-databases, each customized for a specific purpose.

Sorting is automatic, with each new entry placed in the proper position in the database. You can select any of the eight fields to be used as the sort criteria.

FIND IT FAST

The program has a very powerful yet simple-to-use search option. Just type all or part of a word you wish to locate into the search string gadget, and press the return key. Mail-O-Dex will instantly display the first record it finds that sequence in. If the displayed record is not the one you were looking for, just click the search gadget again, and the program will look for another match. The program allows wildcards and pattern matching to filter the search criteria and make the search more selective.

Searches are very fast partly because MOD retains all data in memory so there is no need for time-consuming disk access. While this technique uses up RAM, my 150-entry database comes in well under 10K, and the program itself is only about 50K.

The ability to prepare mail-merge files and print mailing labels puts the "mail" in Mail-O-Dex. You can save records in a file format suitable for mail merging with a variety of word processors, including excellence! and Scribble! (Micro-Systems Software), WordPerfect (WordPerfect Corp.), ProWrite (New Horizons Software), KindWords (The Disc Company), Textcraft Plus (Commodore), and VizaWrite (Progressive Peripherals). For label printing, you can specify the number of labels across the page, and select which fields to print.

Another print option is the table output format, which prints your fields across instead of down the page. To use the Dial option, which automatically dials the telephone number of the current record, you must have a Hayes-compatible modem.

The eight-page manual is somewhat sparse, but adequate because the program is so simple to use. The bottom line is that Mail-O-Dex works well. It's small, it multitasks, and I found it surprisingly useful and convenient. If this is the type of program that suits your needs, you won't be disappointed in Mail-O-Dex.

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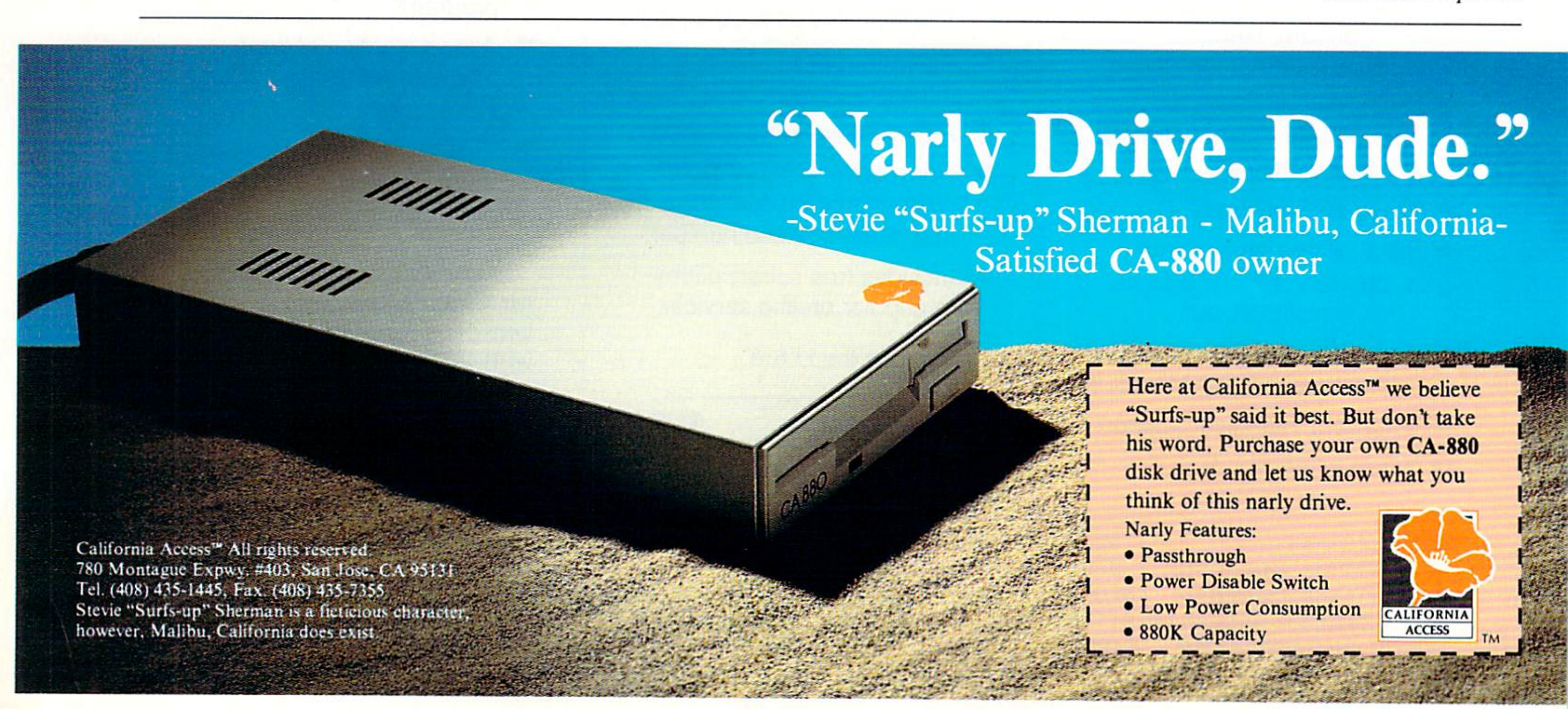
Doing a way with forms

By Morton A. Kevelson, P.E.

A DOLLOP OF database, a pinch of page layout, and a smattering of spreadsheet—that's FormAtion, a program designed for the creation and completion of single-page forms. FormAtion makes it easy to create and fill in telephone notes, invoices, sales sheets, or any other form you might need.

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Continued on p. 102



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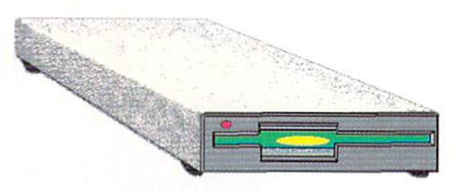
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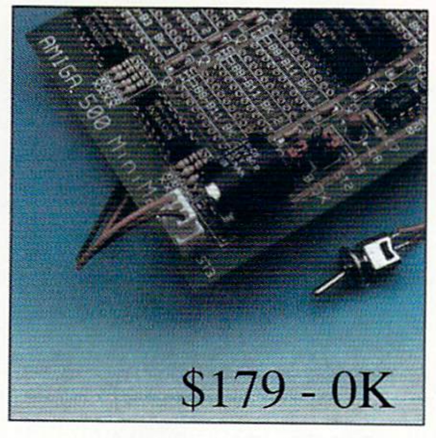
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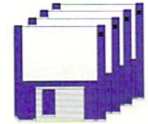
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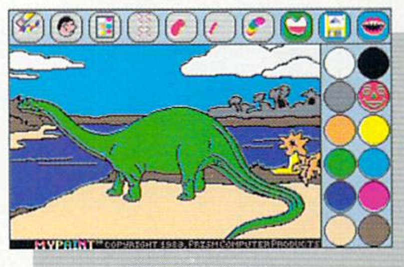
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MULTIMEDIA
Is the Message

With so much recent attention surrounding it, the term "multimedia" seems to be on everyone's lips. What is multimedia? Is it a breakthrough in mixing traditional media in a revolutionary new way, or just some fancy juggling of old concepts in new packaging? What software already exists to create multimedia productions? And what new programs are on the horizon that may give the multimedia concept more than just passing-fad status?

Like "plastics" to Dustin Hoffman in *The Graduate*, "multimedia" is the current hot buzzword and wave of the future. And like another pop-culture phenomenon of that era—the "global village" of Marshall McLuhan—multimedia has quickly built up a coterie of proponents and a veil of conveniently confusing hype to spice up its appeal. Not only does it seem like multimedia is the solution to all informational needs, but also in some kind of McLuhan redux, multimedia is the *message* itself.

Despite the fact that some computer makers and the press act as if they invented the concept just last week, the multitasking Amiga has been combining graphics, text, animation, and sound in desktop-video applications for some time now. The Director—software that is kind of like a multimedia programming language—has been providing the "glue" to integrate all these media for over two years. (See "And For Best 'Direction'. . . ," p. 25, for a look at The Director in action.) Whether they call it desktop video, interactive presentation, or hypermedia, people in the community know that multimedia, while not exactly old hat, isn't a brand new Easter bonnet either!

What is new is the great interest in and attention being paid multimedia at present. The positive results are new activity and new products in the field. Innovators are looking past desktop video to applications that can reference data on CD-ROM disks and show images from a laser disk. (New modules in The Director program and the icon-based authoring system VIVA—see "Author! Author!", p. 30—are active here.) A lot of new and more sophisticated thinking is also going into interactive (user-directed) programs that can access a wide variety of information sources and different media. (See "Play Your Best Hand," p. 38, for a look at UltraCard's "stack" approach to designing interactive multimedia presentations.)

Brave New Worlds of Multimedia

In addition to the existing Amiga multimedia packages already mentioned (which will be covered in detail elsewhere in this issue), a number of new programs are waiting in the wings. So in the remainder of our "multimedia overview" we will preview five packages—some of which may be out or just about to be released by the time you read this—to see if we can get an idea where multimedia is going.

The **Commodore Authoring System** will allow you to create a fully interactive multimedia presentation using only the mouse and a large selection of icons. Although the program is actually a graphic, object-oriented programming language, the interface should make the system simple to use for non-programmers.

Using icons that represent elements as diverse as video, pictures, animations, text, and digitized and synthesized sounds, you build a graphic flowchart of the presentation. User input can be added from the mouse, keyboard, or even a touch screen. Decisions ►

By Oran Sands III and Louis R. Wallace

can be made based on user input by employing one of several control icons that perform such programming-style functions as IF-THEN-ELSE, GOTO and LOOP. Other flow modules can be accessed using subroutine calls, and it is even possible to execute external programs via an ARexx port.

With a video-disk player and a genlock, you can combine canned video with the Amiga's graphics and animation in a highly controlled manner, specifying exactly how many frames of video to display. When combined with overlayed graphics, this allows full motion video images to be accessed from within any application. A large number of wipes and transitions are available.

Again using only icons and requesters involving little keyboard input, you will also be able to use the program to create a simple database. You can use it to store information from users during a session or to supply information to users when requested. Once you finish any application, you can distribute it by creating a runtime version of it to use as your presentation or course.

ShowMaker (Gold Disk) is designed to be an interactive multimedia presentation system that will allow you to combine Amiga-generated sound, graphics, and animation with video from laser disks, video tape recorders, and cameras. By loading the next elements of your presentation from disk while simultaneously displaying the current sequence, you will be able to create long-playing productions.

One of ShowMaker's strengths is its ability to precisely synchronize sound and music with specific graphic or video events. Other notable features include built-in titling software, several dozen wipes and transitions, and support for Anim, RIF and MovieSetter format animations. On the audio side, it supports MIDI, SMUS, and 8SVX. ShowMaker also supports laser-disk players.

From Very Vivid Inc., creators of The Mandala, comes a "hypermedia presentation system" called **Interactor**, which uses the idea of a theatrical production as a metaphor for the process of creating its applications. Your presentation is thought of as a "play" (also called a stack), which in turn consists of a number of "scenes." Scenes contain "backdrops" (pictures) and "actors" (objects), each of which have certain "roles" (or states of being).

Interactor supports low-, medium-, and high-resolution interlaced modes, overscan display, and both single- and double-buffered modes. You are offered a variety of fonts and "softstyles" for text, and you can include such effects as color cycling and fades in your scripts.

Besides being able to import a variety of graphics such as pictures and brushes into its presentations, Interactor provides its own animation capabilities that enable you to move sprites and brushes on the screen with full collision detection. This allows the presentation to take specified set actions if certain objects come in contact.

Interactor currently supports genlocks and laser disks; additional modules from Very Vivid will enable you to add other hardware devices in the future.

One of the earliest programs to allow the multiple and interactive uses of sound, graphics, and animation, DeluxeVideo will soon be available in a revised version from Electronic Arts. **DeluxeVideo III** adds new features and improves on many of the older ones. No longer using the "dual-playfield" format for its display, which limited the number of colors and resolutions users had access to, DVideo III now supports all display modes—including HAM, Extra_Halfbrite, hi-res, overscan and SuperBitMap.

A major strength of DVideo III is its full compatibility with DeluxePaint III's new animation types, which makes it possible to include DPaint Anim and Animbrush files, as well as more standard graphics and brushes, in your videos. And unlike the earlier version, DVideo III saves all data separately from the script, so it can be used in other videos as well. (If you wish, however, you can convert your video directly into a standard Anim file, using the MakeAnim utility supplied with the program.)

DeluxeVideo III supports genlocks and MIDI devices via an ARexx port. It also offers HyperCard-like object-oriented user control. Object motion has been improved with a refined MovePath routine enabling you to define the motion of objects with the mouse. Also new is a relative-motion option, allowing you to attach one object to another. Moving the main object causes the second to follow.

Other features include better font control, background patterns, more cut-and-paste options, interactive options for mouse and joystick, and easy video appending.

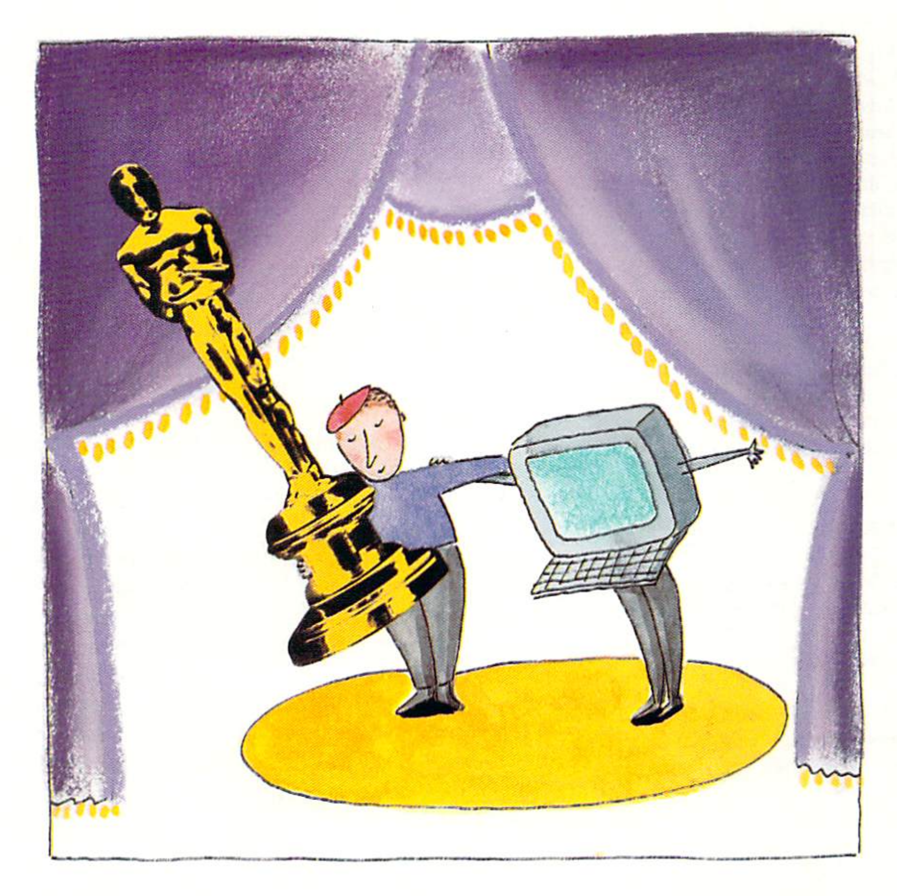
The **CanDo** (INOVAtronics) authoring system offers many of the same features as the Commodore authoring program. With CanDo, however, you combine objects and events into "cards," then assemble the cards into a "deck," which is the final application or presentation.

Objects can be standard graphics, text, brushes, animations, or sounds. They can be presented in a variety of screens and windows, and in conjunction with several opportunities for user interaction—via buttons, requesters, "hot spots," and the like.

CanDo supports external video and audio hardware, it is ARexx-compatible, and it supports DPaint III's BrushAnim format. Completed CanDo decks can be saved as independently executable applications that you may distribute or sell without any licensing fees. ■

Oran Sands III is a video producer and engineer for Methodist Hospital of Indiana. Louis R. Wallace is AmigaWorld*'s Senior Editor, Technology. Write to them c/o* AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

"And For Best 'Direction,' The Winner Is. . ."



One of the creators of The Director demonstrates how it can help you create your own one-man multimedia show.

By Joel Hagen

IF YOU NEED to create interactive or standalone presentations using the Amiga, chances are you're talking about The Director (Right Answers Group, $69.95). Indeed, it occupies a unique niche as the only animation and presentation language for the Amiga. The Director offers powerful control over the Amiga's hardware strengths in graphics, animation, and sound—without forcing a cumbersome structure on an individual's creativity.

With the addition of The Director's Toolkit and some other new modules, the combined power of the program also provides the user with software control over Laser disk players, VCRs, CD players, camcorders, and other external devices. In this article we will focus on how to create interactive and multimedia presentations on your Amiga with the help of The Director.

So What Can You Do for Me?

In terms of the content of presentations, The Director allows you to combine and sequence just about any combination of pictures, text, and sounds you can create with your arsenal of Amiga software. The Director supports a choice of animation approaches including playback of Anims created with Deluxe-Paint III (Electronic Arts), VideoScape 3D (Oxxi), FrameGrabber (Progressive Peripherals & Software), or anything that creates standard IFF Anim files. You can add sound to these Anims and change playback speeds. More advanced users might want to load multiple Anims into memory and chain them together for playback, or superimpose text or other effects on a frame by frame basis.

Page-flipping animation using either full or partial screens is another option. This allows a small number of IFF image pieces to be recombined in new ways in response to specified conditions. For instance, an animated character whose arms, legs, and body parts occupy only three screens could walk around and point to different locations for twenty minutes, ►

whereas an Anim file of identical size would have to end or repeat in just seconds. Similarly, you can reposition a single picture element repeatedly. For instance, you could have a pointing finger move endlessly around the screen indicating various information without taking up much valuable disk or RAM space.

Another memory-efficient presentation technique is to avoid using IFF screens for titles or text information. Instead, The Director's TEXT command allows you to print directly to the presentation display or to the CLI either from the script or from an external file. You can use any number of fonts, and by changing PEN colors and repositioning the coordinates of a TEXT statement, you can create on the fly such effects as drop shadows, and embossed, extruded, or stenciled text. For hi-res overscan presentations, this memory-saving feature may be critical. In any resolution, it allows the user to concentrate disk and RAM space resources on images, Anims, and sound files.

LET'S LOOK AT SOME SCENARIOS

Interactive presentations with the Amiga are an excellent alternative to slide shows, flip charts, or chalk talks. At a simple level, you can write presentations that pause at predetermined spots while the speaker elaborates a point being illustrated on screen. The program waits for a keystroke or a mouse click to trigger the next sequence. This is an easy way for a speaker to deliver a presentation making use of the mouse as a hand-held remote button. At more complex levels, you can create "hot spots" or buttons on graphic screens that recognize a mouse click within a defined area. The click triggers branching decisions based upon the x,y position of the pointer. This kind of interaction is typical in kiosk informational programs, where the user clicks multiple-choice boxes branching to a selection of restaurants, theaters, or shops.

Similarly, the program can wait for a particular keystroke to trigger a branching event, or it can compare an input word or phrase to a stored string to determine correct or incorrect response. Interactive educational programs often make use of this capability. A quiz on films, for example, could wait for the user to select a category such as Mystery with a mouse click in a box, then use the TEXT command to ask randomized questions such as, "Who played Sam Spade in the Maltese Falcon?" The program would then compare the typed answer with the string "Humphrey Bogart" to determine the next event, and catalogue the result for final scoring.

Instead of a mouse or keystroke, a touch screen can be used as the interactive interface to the program. The Future Touch touch screen from Amigo Business Computers ($1095 with monitor, $795 with kit to modify existing monitor), for example, emulates the mouse and allows the user to simply touch an area of the screen designated as a hot spot with a finger rather than move a pointer with a mouse. This is excellent for interactive programs for young children, or for presentations where equipment is exposed to heavy public use where a mouse would be unfamiliar or soon damaged. Director-driven kiosks are being used in airports and hotels in just this manner.

Getting Started

Basic Script Writing

AS AN ANIMATION and presentation *language* for the Amiga, The Director's syntax is patterned after BASIC to make it as familiar as possible, with specific commands added to simplify the creation of presentations and animations. The overall program size is small for efficient use of memory. Weighing in at less than 60K, The Director is one of the few programs that will actually function well in a 512K environment, although it will take full advantage of any expansion RAM present. A comprehensive video tutorial course on The Director is available from Right Answers for $39.95.

The Director works from the CLI with any text editor, even ED in your C directory. A simple slide show could be written like this:

```
LOAD 1,"landscape"
LOAD 2,"clouds"
LOAD 3,"dog"
LOAD 4,"trees"
LOAD 5,"portrait"

DISPLAY 1:PAUSE 100
DISPLAY 2:PAUSE 100
DISPLAY 3:PAUSE 100
DISPLAY 4:PAUSE 100
DISPLAY 5:PAUSE 100
```

This sequence loads five pictures into chunks of memory called "buffers" and then displays them one at a time, pausing 10 seconds (100 tenths) for each display. The more memory you have, the more buffers you can fill with pictures, sounds, and Anims.

The example below gives a precise pathname for locating images, and changes the script from a slide show into a looping page-flip animation by simply reducing the pause from 10 seconds to one-tenth of a second:

```
   LOAD 1,"df1:wink1"
   LOAD 2,"df1:wink2"
   LOAD 3,"df1:wink3"
   LOAD 4,"df1:wink4"
   LOAD 5,"df1:wink5"

10 DISPLAY 1:PAUSE 1
   DISPLAY 2:PAUSE 1
   DISPLAY 3:PAUSE 1
   DISPLAY 4:PAUSE 1
   DISPLAY 5:PAUSE 1

   GOTO 10
```

A line number has been added to the first DISPLAY command as a label. The last command tells the program to "go to" that labeled line and begin again. The result is an endless loop of the pictures in buffers 1 through 5 page-flipping at animation speed.

If the pictures are a logical sequence, like someone winking, the effect will be smooth motion. More complex presentations can be built in logical stages from simple elements such as this one. *—JH*

The Director's Toolkit ($39.95) contains a number of handy additions to the original Director program that can be called from within Director scripts. Of interest to those involved in multimedia presentations is the MIDI input module. MIDI is the Musical Instrument Digital Interface, a communications network for interfacing musical instruments with computers. Using the Toolkit's MIDI input module with a Director presentation allows a musician to trigger screen events with musical notes. The Director gets note on/off information (actually note and velocity) as it listens to one of 16 MIDI channels. This information can be used in the same way as a mouse click or keystroke to change the screen display, or to present text information in real-time interaction with the performer.

MIDI input can also respond to devices other than instruments. A SMPTE (Society of Motion Picture and Television Engineers) to MIDI converter can send information via the MIDI input to The Director. While a video plays, the program waits for a specified frame to send its unique SMPTE signal. This can then trigger an Amiga event either on screen or genlocked over the video. In this way, the Amiga could overlay appropriate floor-plan and price information of houses as video of a housing development plays. Prices could be updated in a Director script in minutes without the need of altering or reshooting the video.

Hooking up With Some Heavy Hitters

In another multimedia vein, Right Answers has just released an experimental driver for Pioneer laser disk players that allows program control over all laser disk player functions. This driver, called LVIDEO, is compatible with Pioneer series 4200, 2200, and 8000, as well as with its industrial LC-V330 auto changer. Via the RS-232 serial interface, a Director script can Play, Pause, single step, forward and reverse, seek to frame number, superimpose text on screen, control speed, eject, and trigger any other remote functions. The LVIDEO module is available on PeopleLink, from Right Answers for a nominal handling charge, or as part of the *AmigaWorld* Animation Software Library (a two-disk set costing $14.95).

Utilizing the kind of hot-spot screen buttons described above, an interactive computer/laser disk tool or presentation could be created. Figure 1 shows a Planetary Image Library main menu offering the user an initial choice of planets to view. Each planet's selection box is defined as a button by the x,y coordinates of its boundary (see Example 3 in the "Up and Running" sidebar). Clicking the Mars box could trigger branching to another screen such as the MARS menu (Figure 2) in which selection buttons are defined as the quadrangles of a USGS Mars map. Selecting the appropriate sector could then trigger branching to other options, such as "Surface view" or "Orbital view" and eventually to an LVIDEO module command. This could seek to a specified frame number on a laser disk of NASA images, and display the appropriate Viking lander image of the Martian surface (Figure 3). (As a kid who grew up watching "Space Patrol" in an era when the most powerful computer I owned was my Secret Squadron decoder badge, it frankly amazes me to have casually written this last paragraph.)

Another interesting multimedia combination with The Director involves using the MediaPhile 1.3MP Infrared Control Unit from Interactive Micro Sys- ►

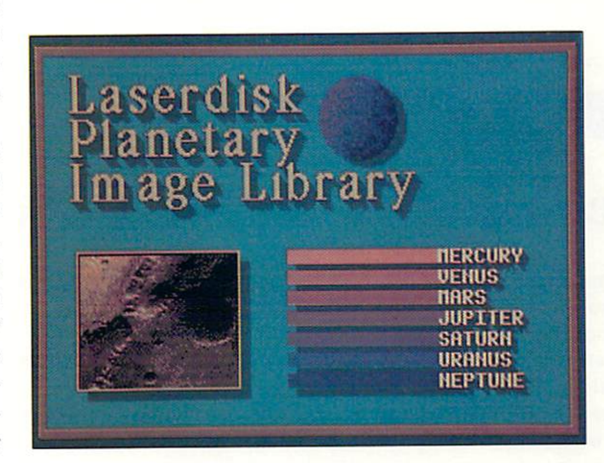


Figure 1. The Planetary Image Library main menu offers a choice of planets to view.

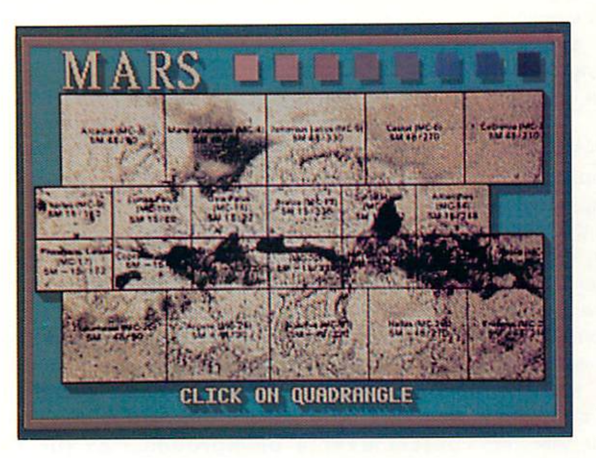


Figure 2. Clicking on "Mars" above triggers branching to this MARS menu.

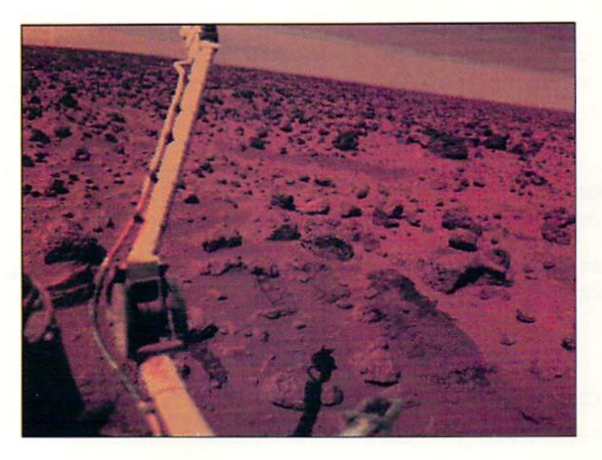


Figure 3. The user finally arrives at the desired single frame of the Viking lander image of the Martian surface.

tems ($195 with software—see May '89, p. 68, for a complete review) and any infrared-controlled device such as VCR, CD, TV, or laser disk players. On the MediaPhile Programmer's Toolkit disk ($149) is a Director module allowing program control of multiple devices using commands relayed via MediaPhile's own infrared LED. Also, you can plug any Sony device with an S port directly into the MediaPhile controller. The control unit connects to the Amiga's second mouse port and is also capable of sending signals to a camcorder or to some film cameras. There are wonderful possibilities for linking several devices to the Amiga and The Director for sophisticated interactive displays at trade shows or science fairs.

The quality and level of graphic sophistication that is now possible in presentations is remarkable. Digitizers and frame grabbers coupled with powerful paint programs make it possible to create beautiful graphics and animations for the computer screen. 3-D and ray-tracing software, CAD, and math-function plotters all add to the range of images and information one can present. The philosophy of The Director is not to replace any of this software, but rather to provide a medium through which it can all be used in concert to create better results. It is now

Up and Running

A "Conversation" with The Director

IN THE MAIN part of this article, we concentrated mostly on *what* The Director could do in terms of presenting and combining multimedia elements. Here we focus on *how* the program operates. The examples that follow are designed to show the various commands and statements and their parameters—the very language of The Director itself—in action.

Flipping Over Animation

Full-screen page-flipping animation can be as simple as the example outlined in the "Getting Started" sidebar. Creating partial-screen page-flip sequences, however, is a bit more complex and relies on The Director's BLIT command (see "Accent on Graphics" #5, p. 50, June '89, for more on BLIT). BLIT, like many other Director commands including WIPE and DISSOLVE, is followed by a series of parameters indicating which portion of the screen to change. For instance:

Example 1

```
  REM   Partial-Screen
  REM   Page-Flipping Test

  LOAD 1,"df1:screen"
  LOAD 2,"df1:sequence"
  TRANSPARENT 1

50 FOR q=1 to 8
  BLIT 2,10,5,45,130,20,50
  BLIT 2,40,5,45,130,20,50
  BLIT 2,70,5,45,130,20,50
  NEXT
```

This simple animation script looks at a three-image sequence of 20-by-50-pixel rectangles in buffer 2 and transfers them from their x,y locations to location 45,130 in the current destination buffer. The TRANSPARENT statement prevents BLIT from transferring color 0. This allows objects to be "removed" from the background when transferred. A FOR/NEXT loop for the BLIT commands runs the animation sequence eight times before proceeding. Page-flip animation normally BLITs from a series of different source coordinates to a constant destination coordinate as shown. Conversely, moving an object over a background would commonly BLIT from constant source coordinates to a series of different destination coordinates.

Expressive Text

The TEXT command also needs screen coordinates. These are usually provided through the MOVE command, which provides a location for the text to begin. For instance:

Example 2

```
  REM   Text Test Program

  LOAD 1,"df1:screen"
  LOADFONT 1,12,"big.font"

60 DRAWMODE 0
  PEN 1,15
  SETFONT 1
  MOVE 20,110
  TEXT "Who was Asta?"
```

LOADFONT lets you preload as many fonts as you like into RAM, assigning each a font number to be used by SETFONT later. PEN 1 is the foreground color, and is set to palette position 15. MOVE sets the beginning position of the text in the image window of the illustrated screen. Repeating the TEXT command with a darker PEN color will give a highlight effect if you offset it with the command MOVE 22,112.

At the Touch of a Button

Interactive presentations often use on-screen buttons for user response. The next example shows how a screen button can be specified and monitored with an IF/ENDIF statement and GETMOUSE command.

Example 3

```
  REM   Button Test
  REM   Program

  LOAD 1,"df1:screen"
  LOAD 3,"df1:pix4"
  ABORT 2

5 GETMOUSE x,y
  IF x>127&x<175&y>49&y<93
  GOSUB 40
  ENDIF
  GOTO 5

40 BLIT 3,3,2,18,100,284,57
  RETURN
```

This loads the main screen into buffer 1, and a screen of images into buffer 2 (see Figures 1A and 2A). The ABORT statement terminates the program if a key is hit. The interactive statement GETMOUSE waits for the user's mouse click and remembers the x,y location of the pointer at that click. (GETKEY would wait for a keystroke, holding the ASCII code of that key in a variable.) The IF/ENDIF line checks to see if the GETMOUSE x,y location falls within the boundaries of button A on the main screen. If so, the program executes the subroutine at line 40 which BLITs the top image from Buffer 2 into the image area on the main screen. Each button area on the main screen could be similarly identified and checked each time the mouse is clicked. Each button could branch the program to a different subroutine such as the animation sequence of subroutine 50 in Example 1, or the TEXT subroutine 60 in the Example 2.

possible to go a step further and tie the Amiga into a larger network of devices to create integrated multimedia presentations. With all the options now available, maybe Commodore's recent media pitch for the Amiga as the tool for the creative mind is less hype than you might think. ■

Joel Hagen, one of the founding members of the Right Answers Group, is a graphic artist whose credits and projects span a fascinating range—from art to astronomy, and software development to science fiction. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Manufacturers' Addresses

Right Answers Group
Box 3699
Torrance, CA 90510
213/325-1311

Interactive MicroSystems
PO Box 1446
Haverhill, MA 01830
508/372-0400

Amigo Business Computers
192 Laurel Rd.
E. Northport, NY 11731
516/757-7334

The Sound of MIDI

The MIDI module in The Director's Toolkit is a substitute for The Director's regular sound module. It contains enhancements to the original sound commands, and also provides MIDI note input. It can be used to synchronize Director animations with external MIDI instruments, synthesizers, sequencers, and so on. To select the MIDI module, use the command:

```
MODULE "midi"
```

The Director's SOUND command then allows a program to monitor up to 16 MIDI channels, using specific parameters to indicate the channel and note information, as in:

```
SOUND v,"midi",6,0
```

In this particular command, the variable v is ignored. The "midi" parameter invokes the MIDI module, and 6 is the MIDI channel number the module will monitor. The 0 specifies that only note-on commands will be recognized in this case. This allows you to mask out note-off commands for simple triggering.

Other commands can also make use of this monitoring, as in the following example:

```
SOUND v,"wait"
```

This command is similar to GETMOUSE, and will wait for the next note-on in the specified channel. All other MIDI commands will be ignored. Variable v will return both the note and velocity information. To extract this information, use these computations: note = v%256 (% is The Director's symbol for the modulo operation), velocity = v/256. If velocity is non-zero, then it is a note-on command. An IF/ENDIF statement can determine if the new variable, velocity, is non-zero and branch to a subroutine exactly as outlined in the button test program. Obviously, this is a very simple illustration of the potential of MIDI interaction.

Heavy Interaction

Going a step further to interaction with a Pioneer laser disk player, the LVIDEO module could be made addressable from a Director script with the command:

```
MODULE "lvideo"
```

As with the MIDI module, a series of parameters using The Director's SOUND statement will send and receive information from the player to be used in the program or to control the player. For example:

```
SOUND v,"lv","5438SE"
```

invokes the LVIDEO module with the "lv" command and seeks frame number 5438 on a laser disk with Pioneer's search command, SE. Similar operations could be performed with other commands: PL for play, PA for pause, MF for multi-speed forward, and so on. On other commands, the v parameter is a variable that can hold information returned from the player. A subroutine that GETMOUSE or GETKEY branches to could seek frame 5438 of a laser disk, and display that image. The MediaPhile Director module works in a similar way. *—JH*

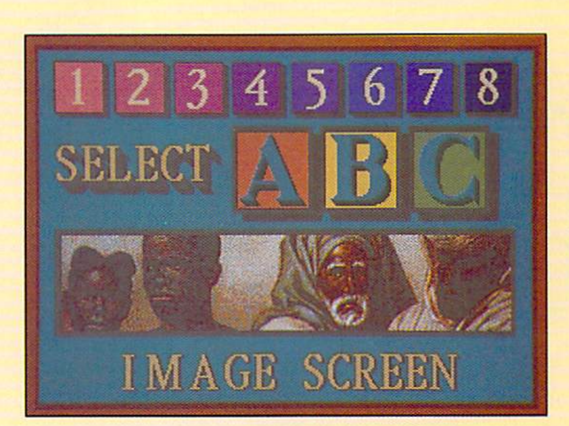


Figure 1A. The main screen of the interactive presentation outlined in Example 3.

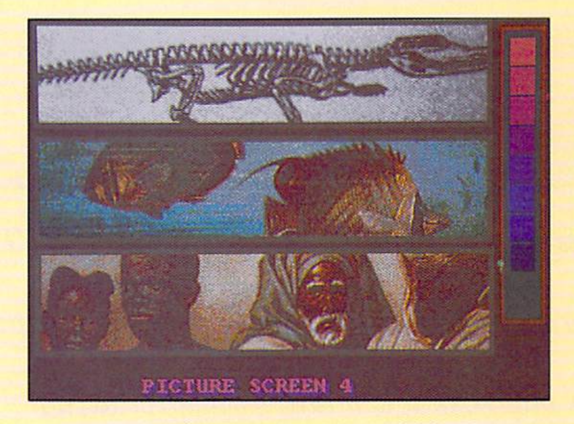
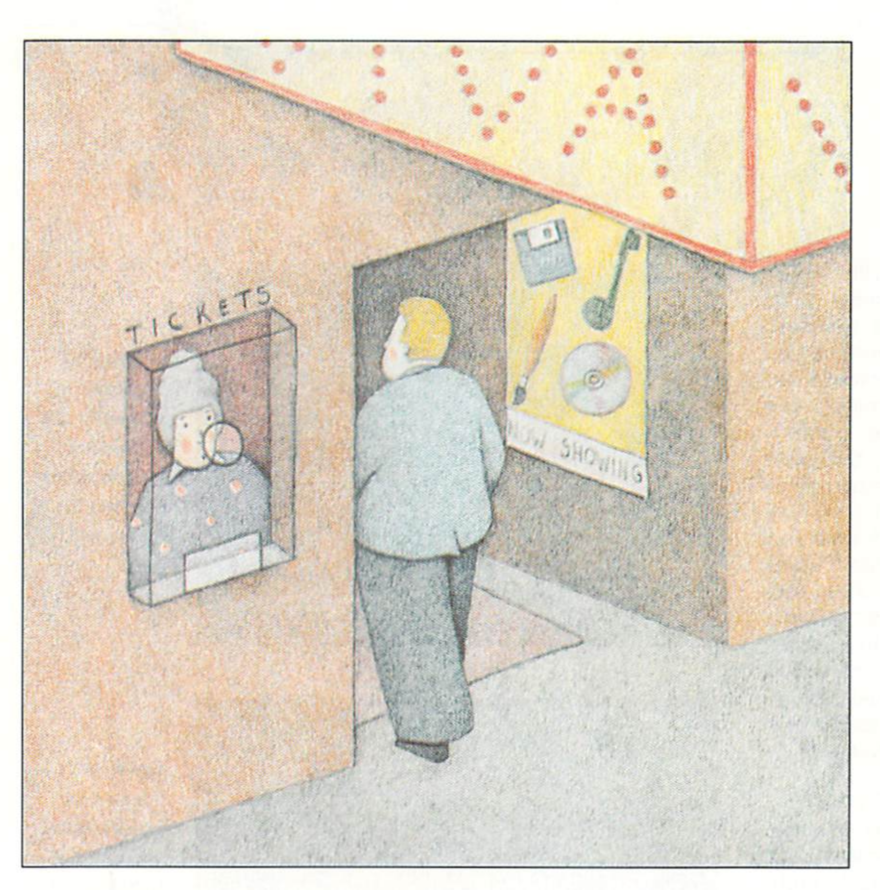


Figure 2A. Screens of images like this one can be triggered by touching various on-screen buttons above.

Author! Author!



With its elegant, easy-to-use interface, the VIVA authoring system could ring down the curtain on other Amiga multimedia-production software. But will the "Hit-in-New-Haven" translate to box-office success on Broadway?

By Geoffrey Williams

THE VIVA AUTHORING package (MichTron, $199.95) represents yet another approach to creating and controlling interactive, multimedia productions with the Amiga. Other methods are covered elsewhere in this issue—from the script-based procedures used by the well-established Director program (p. 25) to the stack-metaphor concept employed by the new UltraCard (p. 38). What sets VIVA apart, however, is its icon interface, which makes creating your own programs very easy. Unlike The Director, which forces you to write script files, VIVA allows you to create presentations by selecting a series of icons.

The ability to work with an icon interface is VIVA's greatest strength, and allows you to create programs in minutes that could take hours if you had to write and debug a script file. The learning curve is very short—I was creating working "stories" (VIVA nomenclature for an interactive presentation) the very first day I started to play with it. While this one feature is such a significant development that it gives VIVA the potential to dominate the Amiga multimedia field, there are, unfortunately, a few serious reservations about the program that must be addressed (and will be in this article).

VIVA: Power to the Users!

VIVA (which stands for Visual Interactive Video Authoring) allows you to write interactive programs that can utilize the images from a laser disk as well as display Amiga graphics and play digitized sounds. By clicking on areas of the screen, blocks of text, or buttons and gadgets you create in a paint program, users can choose what information they want to see or what paths they want to follow.

With the addition of a genlock, you can create programs that combine Amiga graphics and laser disk images. For example, you could display a single frame from the laser disk, and have objects you created in a paint program genlocked on top of it. By clicking on the objects, the user would be sent to a different laser disk image or a different graphic. Because a single side of a laser disk can contain over 50,000 individual images and play any part of them as animations, the possibilities open to you are staggering.

When you first open VIVA, you are presented with ►

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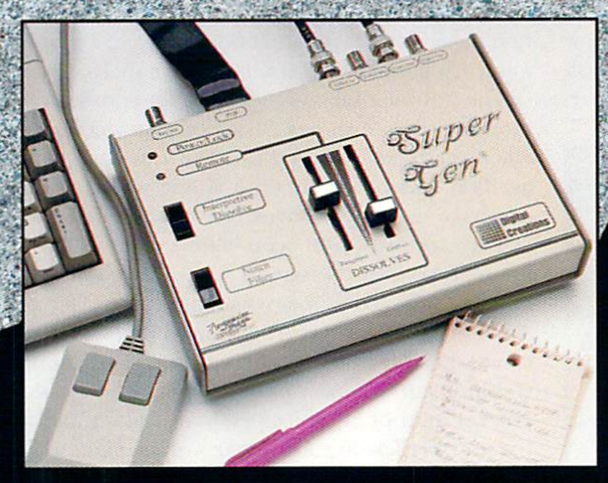
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an upper window, the Storyboard, in which all of the story icons will be placed, and a lower window from which you select the various action icons. These are broken down into several categories, and the bottom row of buttons allows you to select the category you want to work with. When you change categories, a new selection of icons appears in the lower window.

To create a script, all you have to do is click on a series of icons and set their individual parameters. They will then appear in the Storyboard. If there are more icons in the Storyboard than can fit in the window, you can scroll down through them. Figure 1 shows the VIVA main screen with an assortment of story icons pertaining to a wine promotion campaign in the upper window (Storyboard), while the action icons appear in the lower window.

Editing an icon in the Storyboard is easy. Click on it, and a popup menu will appear that allows you to Delete, Move, Edit, Insert, Copy, change the name (each icon is given an individual default name, but you can change the name to anything you want), and test the icon to see what it does. This makes editing very fast, as the menu selections are right where the icon is so that you do not have to go back up to the menu bar. When you decide to delete an icon, the program even warns you if other icons are dependent upon it before proceeding.

Because there are different icons for different functions, it is simple to go through the Storyboard and find the functions you want to edit. The mind can identify a simple shape much faster than it can decode text, so it is much easier to edit in this icon environment than it is with a text-based script file.

There are also three icons at the top of the screen that let you print the Storyboard script, run the Storyboard (which you can do at any time to see how things are progressing), and pop up a laser disk controller. The latter looks just like a VCR controller,

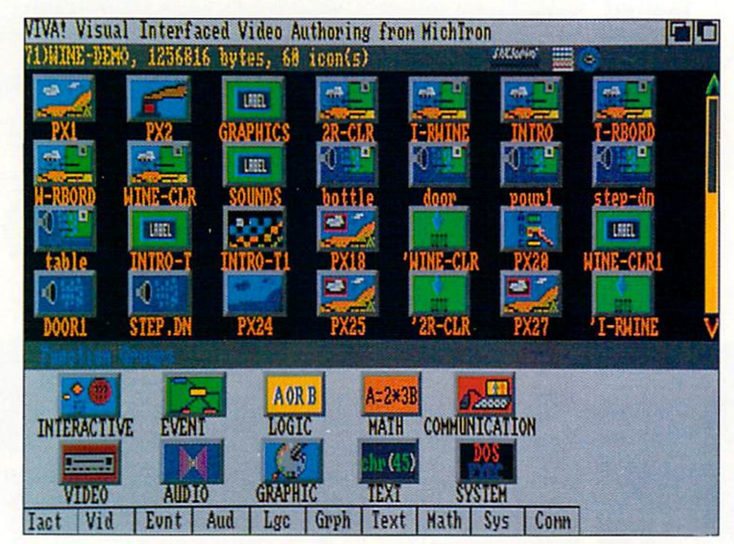


Figure 1. VIVA main screen. Note the sample story icons in the upper window (or Storyboard) and the action icons in the lower window.

with Scan (fast forward or reverse), Step (single-frame forward or reverse), and Play (plays a sequence on the disk). You can also play back in slow and fast motion, mute the right or left audio channels, and search for a specific frame by its frame number or by a chapter number (a laser disk is divided into chapters). You use the controller during the planning stages to find the specific frames you want to use in your presentation.

The user interface is very elegant, and it is obvious that a lot of time went into its development. I am thrilled with its ease of use and its ability to show stills and animations from a laser disk, but I was disappointed by its poor Amiga graphics support. While it can handle all resolutions including overscan, it does not support animation or color cycling, and has only a few transitions (and not all of them work very well). This is a real shame, as the power of Anim brushes, brush moves, compressed animation, and other exciting Amiga features would be a tremendous enhancement to the power of the laser disk.

The Icon Approach to VIVA Stories

VIVA offers ten basic functional groups of icons from which to choose. The first are found under the **Interactive** icons. These offer a number of ways to let the user respond to on-screen events.

The *Text Hot Spot* icon allows you to create text that can be clicked on to execute a specific function. This provides an easy way to make menu options. You can choose the font type from any in your fonts directory (except ColorFonts), and you can select the text and background colors. You can also have a box appear around the text and/or a text color change to show that it has been clicked on. Although the manual claims that the text can be up to 32 characters long, I was unable to enter more than 16.

The icon that follows the Text Hot Spot icon in the Storyboard determines the action that will take place when that text is clicked on. You can have as many as 1000 text hot spots on a single screen, and you can have text appear over IFF or laser-disk images.

The *Area Hot Spot* icon allows you to draw an invisible box on the screen, so that area becomes a hot spot. This could be over graphics or laser video. A major failing of the program, however, is that you can make only rectangular hot spots. For instance, a common educational application might be to show a cross-section of an object such as a plant and allow the user to click on various parts of the plant to access information about that part. If the individual components are curved, it would be very difficult to create hot spots that do not overlap other parts. This is severely limiting, and free-form hot spots should be included in future updates.

Another missing feature I would like to see is the ability to make an alternate image appear when a hot spot is clicked, so you can have things like buttons that appear to be pressed when you click on them ►

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A Working Guide to VIVA

IN WORKING WITH Tony Gomez, who heads the Valley Video Workshop in North Hollywood, CA, the first VIVA project we decided to create was an interactive tour of the solar system based on images from the Voyager I and II missions. (The results of this work, incidentally, will be presented at an upcoming meeting of the International Interactive Communications Society—IICS.) In creating the project I devised the following "8 Step Guide" that may be helpful in preparing a VIVA interactive presentation.

Step 1: The Story

Once you know the topic of your interactive project, you need to make a complete outline of all of the points you want to cover. You will find that an outlining program such as Flow New Horizons Software, $99.95) is very helpful, as it allows you to organize your material as heads and subheads, displaying only certain levels at a time. This lets you make a rough simulation of the way the material will be organized in your interactive presentation.

Step 2: The Laser Disk

Obviously, you will need a laser disk with which to interact. Creating your own is a complex proposition, requiring very high-quality video-source material, careful planning, and considerable expense in having the laser master disk made. For most people, it is much more practical to use an existing laser disk. This is known as "repurposing," and the VIVA manual lists several Videodisc manufacturers with discs available on a variety of subjects.

For our tour of the solar system project, we chose a laser disk created by the Optical Data Corporation that sells for about $100. It contains thousands of images from the Voyager missions, along with many exciting animated sequences.

Step 3: Choosing the Images

Next, we went through the laser disk to find images and animations that would illustrate our main points. Laser-disk players give you the option of displaying the frame numbers, so when we found an image we wanted to use, we wrote down its frame number and a short description. For animation sequences, we also jotted down the frame number we wanted the animation to end on.

Creativity is important, as you will probably not find the precise picture you want to use on the laser disk. You may be able to genlock Amiga graphics over an image, masking out the parts that you do not want to show. We found some great images that showed size comparisons of the planets and moons, but the top half of the screen was filled with technical information that had no place in our story. We genlocked graphic images over these data sections, which gave us screens that we could use.

Step 4: Creating a Flowchart

First, find a large piece of paper. A flowchart of even a simple story can get very large very quickly. The flowchart will be your road map to the design of your presentation.

The flowchart in Figure 1A shows only the complete branchings for one of the planets, in this case Jupiter. The organization of how the different screens interact is known as the program logic, and it is important to keep careful notes to avoid confusion. The numbers in each box signify the laser-disk frame number for that screen.

We decided to standardize the different screen types. We called our first screen, consisting of three planets, the Main screen. Most of the other screens contain a button labeled "New Planet" that will return you to this Main screen. By clicking on one of the planets, you bring up the appropriate Planet Data screen. Each of those three screens includes information about the selected planet as well as three buttons along the bottom: "New Planet," "Planet," and "Moons." "Planet" takes you to a Planet Option screen with two large buttons offering a "Narrated Flyby" and a "Planet Rotation." These two buttons play the corresponding animations. At the end of the animations, the laser disk freezes on the last frame and a genlocked set of buttons is displayed: "Repeat," "Moons," and "New Planet." "Repeat" replays the animation, while "Moons" takes you to the Moons Option screen.

While there are three Planet Option screens and several Moons Option screens, each screen type has a consistent design: The same buttons take you in similar directions in every instance. As you can see from the partial flowchart (Figure 1A), things get crowded very quickly, but because all Moon Option or Planet Data screens work in the same way, we can easily figure out how to program them if we lay out one complete path in the flowchart. This makes it much easier to check and debug program logic.

Step 5: Creating the Graphics

Working from the flowchart, make a list of all of the graphics screens you will need to create. It is important to devise a standardized way of naming the graphics. The name should tell you what the picture is, and what type of screen it should appear on. For example, the graphic with the buttons to be genlocked on the Jupiter data screen is called "Jupiter.PD.buttons," the PD signifying that it is a Planet Data screen.

Try to design buttons, text screens, and other graphics elements so that there is a consistent overall design, and so that the graphics match the style of the laser-disk material. All the elements should look like they belong together.

The only way to properly create the graphics is to use the laser controller utility in VIVA to bring up a video frame, and then genlock your paint program over it. This lets you align graphics properly and to see what they look like in NTSC. If you are working with Deluxe-Paint III (Electronic Arts, $149.95) in overscan, make sure you hit the F10 function key to eliminate the title and tool bars; otherwise you will be looking at an image that is shifted down several scan lines from the way it will appear in your story.

VIVA multitasks easily with paint and other programs. By selecting a pull-down menu from within VIVA, you can type in a pathname for a specific program you want to run when you access that pull-down menu later. There are options for setting seven different programs in pull-down menus.

If you want to do wipe transitions between graphics screens, the smartest thing to do is to use the same color palette for the entire presentation. Images with different palettes will give you strange colors as the second picture's color palette becomes active during wipe effcets. While you may start by carefully planning to use only pictures with the same color palettes together, if you later decide you need to rearrange the images, your careful planning will go out the window.

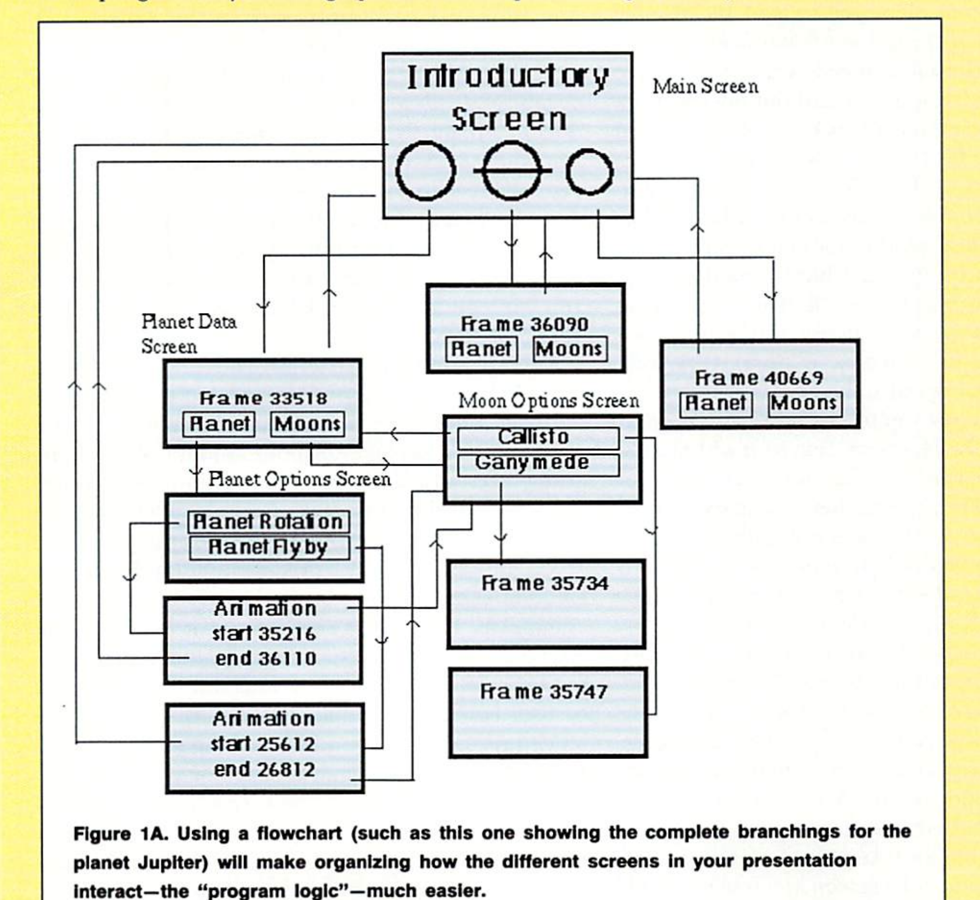


Figure 1A. Using a flowchart (such as this one showing the complete branchings for the planet Jupiter) will make organizing how the different screens in your presentation interact—the "program logic"—much easier.

Step 6: Programming in VIVA

The manual contains lots of good advice on programming structure. Pay special attention to labeling, and read the "Tips and Tricks" section in the Appendix.

Step 7: Fine-Tuning

Once you have your basic story working in VIVA, you can start adding extra features. For example, we decided that some people might not want to watch a complete animation sequence, so we made the entire screen a hot spot during animation playback. By clicking on the screen, the user can stop the animation and return to the Planet Data screen.

It would have been nice here to be able to use a frame grabber, which would have enabled us to capture graphics from the laser disk and manipulate them as graphics files. This would have made it possible to create graphics composites, such as of the three planets on our Main screen, that resemble the digitized images from the laser disk. Instead, we had to create a relatively crude graphics screen for the Main screen.

Step 8: Real-World Testing

While *you* know that your presentation works well technically, it still may not be easy to use for someone who does not know how it is set up. Test your presentation on several people who are unfamiliar with interactive media and your subject matter. Observe how easily they are able to move around, notice if there are sections that are frequently skipped over, and get feedback from them on what they like and dislike. As perfect as you might have thought it was, chances are you will need to make additional changes based on this feedback. Such testing will help insure that your finished product is a useful and exciting interactive presentation. □ *—GW*

and other simple forms of animation. This is more of a frill than a necessity, but the more graphics sizzle you can add, the better.

To create questions on the screen to which you want a keyboard response, you first create the question as text in an IFF image. The *Ask* icon allows you to set the question as true/false, yes/no, or multiple choice, and to place a prompt, such as "Enter T or F only," anywhere on the screen. After giving each question a name, you then put an *Answer* icon for each possible answer to that question elsewhere in the script. If the user responds with a "y" for yes, the program jumps to the section of the Storyboard containing the Answer icon with the "y" response set for that named question. Everything after that Answer icon is then executed. (For those who program, this is like a conditional GOTO—but with VIVA you need not worry about such things.)

The **Video** icons offer you a range of controls over the laser disk player. You can play animations from the laser disk at a variety of speeds, play them to a specific frame and stop (even while other parts of the Storyboard are being run), and show single frames.

The **Graphics** icons allow you to load and display Amiga graphics, and there are a few transitions possible. *Fade* with adjustable speed works well, while *Tile* provides effective spiral in and out effects and a good-looking checkerboard transition. In the initial release, the *Wipe* effect did not work well, but it is very smooth in version 1.02. You can wipe right, left, up, and down. The *Push* transition is jerky and has too much "artifacting" (additional colors appear that do not belong) to be useful, while I could not get *Dissolve* to function properly at all. The *Blinds* effect is slow and you do get some minor artifacting when you use it to wipe in a picture; it works very well, however, when wiping out to black.

The **Text** icons allow you to display text. *Place Text* works exactly like the Hot Spot Text icon without the hot spot. You can load text in and display it in a scrolling window. The problem here is that users must understand how to work the scroll gadget, and to click on the close gadget when done—there ought to be a better way to handle this. A *Print Text* icon enables you to supply users with hardcopy of the text.

The *Speak Text* function has an odd habit of ignoring periods and leaving out the pauses. It also exhibits the more commonly encountered problem of pausing at the end of each line rather than at the end of each sentence. These two quirks combine to make it sometimes difficult to understand. A workaround would be to make sure that your sentences end at the end of each line. Each line of text is displayed as a small window at the bottom of the screen as it is being read, so you cannot get away with phonetic pronounciation. The easiest solution is to get a copy of the public-domain program BetterSpeech, which allows you to create an exception table that improves the pronunciation. It would also be nice if the program allowed you to display a graphic as text is spoken.

There are also several icons for putting in pauses or delays: The *Keyboard* icon waits for a specific key to be pressed; *Keywait* puts the words "press the escape key" on the screen and then waits for you to do so; *Time* waits for a specified amount of time or for a specified number of video frames to go by; and *Time Wait* branches to a specified part of the Storyboard if the time runs out before the user responds.

The **Event** icons give you a basic range of operational functions such as If, Else, Goto, Return, End, Until, and Break. *Masterloop* will return the program to the beginning, while *Label* allows you to label different sections of your Storyboard. The **Logic** icons provide operations such as Greater Than, Equal To, And, Or, Xor, Negate, Less, and Less Equal, while the **Math** icons provide a dozen math functions.

VIVA Summary

VIVA provides you with all of the basic tools to create effective interactive presentations. Its real power, though, comes from its ability to control a laser disk. To take advantage of this, you will need a professional unit with an RS-232 port, such as the Pioneer LD-4200 player (about $1000).

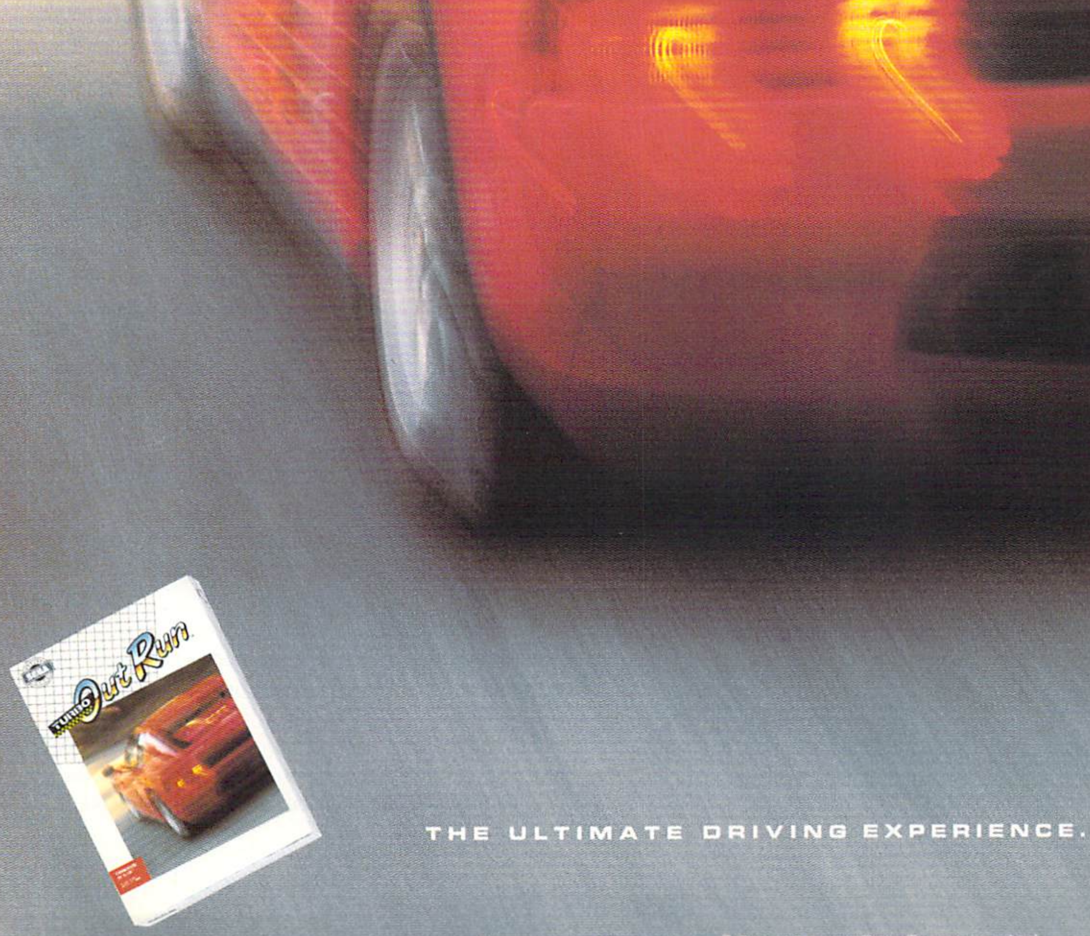
VIVA'S 263-page manual is thorough and well organized (with an index). It also provides an introduction to interactive hypermedia and a glossary. Appendices offer suggestions for further reading, a vendor list with sources for laser disks, players, and even an Amiga-compatible touch screen, and a list of support organizations, including the IICS (International Interactive Communications Society—which you can contact at 2410 Charleston Rd., Mountain View, CA 94043, 415/922-0214).

A recent announcement that The Director will soon provide laser-disk support means that it will become an even more powerful multimedia tool. The program already has an enormous amount of flexibility and power when it comes to manipulating Amiga graphics. I feel that the complexity of programming Director presentations, however, still puts it out of reach for many. While VIVA may not (and probably should not try) to offer the kind of sophistication and complexity found in The Director, it does need to offer a wider range of graphics and animation options to fully capitalize on its marvelous simplicity and ease of use. Fortunately, thanks to the elegance of the VIVA interface, adding additional capabilities should not make it more difficult to learn or use.

As it is, VIVA is one of the easiest interactive programs to work with on any computer. With further enhancements, I feel it could be one of the best interactive development tools available. ■

Geoffrey Williams is Executive Producer for Creative Business Communication and head of the Amiga Video-Graphics Guild. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*





SEGA ARCADE HITS

START

COURSE MAP

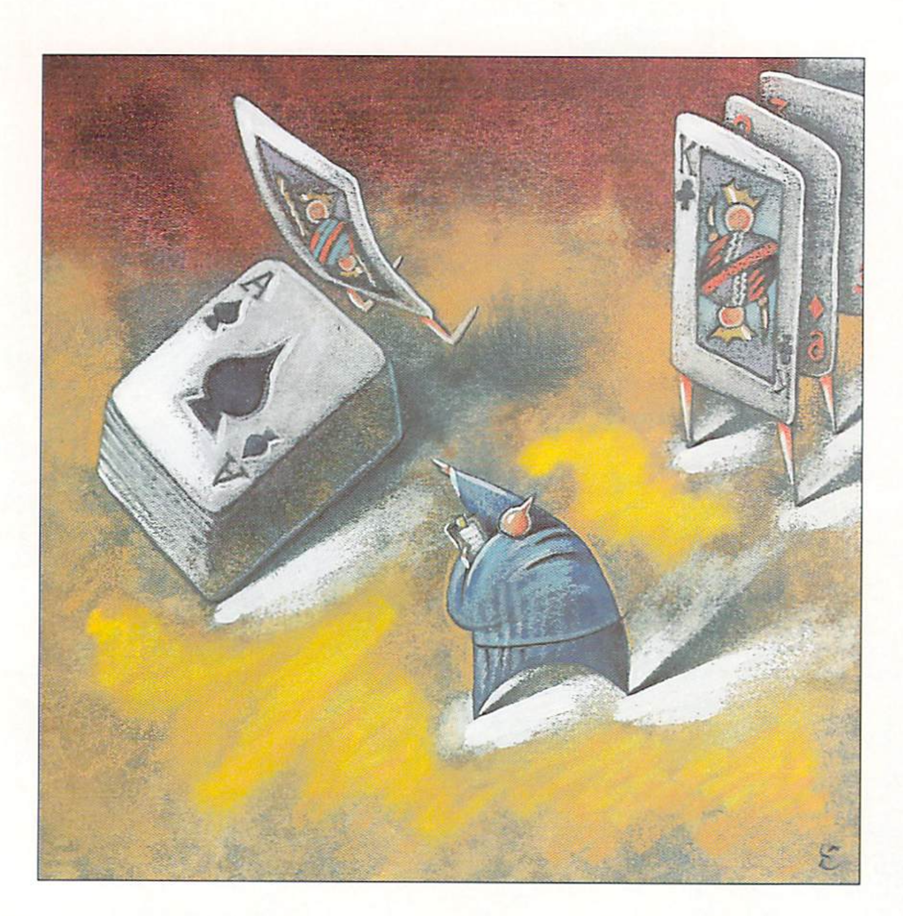
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Circle 7 on Reader Service card.

Play Your Best Hand:

Building a Presentation with UltraCard



Stack the deck in your favor with these tips on designing a multimedia project.

By Michael Hanish

FOR A WINNING presentation, you must combine ordinary information in extraordinary ways. UltraCard (Intuitive Technologies, $50) gives you the tools you need. With it, you design an interface to communicate with external programs and present text, graphics, sounds, and speech. You can specify every detail of how the information is to be displayed—link screens in information trails, manipulate data and move it between programs. In effect, you can create a new program without being a programmer. And to prove it, just follow along in the sample project below.

Like its Apple cousin Hypercard, UltraCard is based on the stack metaphor. Imagine a stack of file cards, all different in appearance and content. Each card can hold pictures, text, sounds, numbers, or any combination of these. You can flip through the cards, viewing them in any order. In UltraCard, a card is called a frame and is made up of a frame layer overlayed on a backdrop layer, like a sheet of acetate. The backdrop can include IFF pictures and objects (buttons, text fields, and so forth) that remain constant in several frames. The frame layer contains the objects that are specific to each frame. When clicked on, objects can do everything from jumping among frames and stacks to performing complex calculations to describing the screen's contents. You design what the object will look like and, through a script associated with the object, the action it triggers.

Know the Rules

For an example project, I designed an interactive stack to use in the basic reading and writing courses I teach for adults. Each frame shows a picture, says the word associated with the picture, and asks the student to type it. After checking for correct spelling, the frame shows a list of related words that lead to ►

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Circle 72 on Reader Service card.

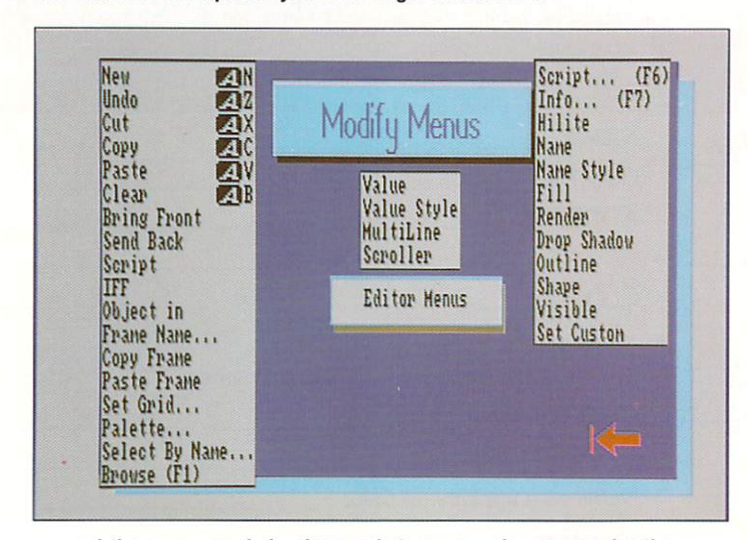
other frames. For example, from the word "round" a student could jump to a picture of a bicycle, a basketball, or a pizza. I also included an index and a help frame.

I quickly learned advance planning is crucial to success. Start by thinking of what you want to communicate. List all the information, then start drawing lines to link the various bits. You not only must decide what information you want to display but also how it should interrelate with the rest. Information need not be presented in only one preset sequence. In a stack, users can follow an information trail through all sorts of paths, according to their interests. Directions for fixing a car engine should progress step by step. Details about how the parts of an engine work can be presented and discussed in a number of sequences. Keep this concept in mind when designing your stack and deciding on links.

Each time you run UltraCard, the program opens into the Control Room, an overview stack. If UltraCard is on your hard drive, you must set search paths so the program can find other stacks and programs. UltraCard offers no drawing tools, but does let you specify a path to and preferences for a paint program, so you can jump to it automatically, work on a backdrop, then import the results back into UltraCard and your stack. A similar option lets you jump to a text editor. If you wish, you can redesign the Control Room with the built-in functions. The help stack is never further away than the Help key.



The Control Room points you in the right direction . . .



. . . and the on-screen help shows what you can do once you're there.

UltraCard's two main modes are Browse and Modify. In Browse mode you move around in a stack while creating it or navigate through a finished stack to use it. Modify mode contains all the creation and editing tools. You can switch between the two with F1 (to Browse) and F2 (to Modify).

My design called for one basic backdrop that would display a graphic in the center and have buttons for moving around the stack. The first step was to make a backdrop, an IFF picture in any resolution with up to UltraCard's maximum of 64 colors. I experimented with Extra_Halfbrite mode (64 colors) and discovered the program is unstable working with that many colors. Keep to a 32-color maximum. In version 1.4, lo-res overscan mode garbles the backdrop. Word from Intuitive Technologies is that both these features will be fixed in version 1.4.2.

A test of the graphic fill feature, which fills an object with part of an IFF picture, showed that the backdrop palette dominates the frame. Make several backdrops with varying palettes that are compatible with the graphic fills you plan to use.

BUILDER'S PERMIT

To begin making a stack, select New Stack from Browse mode's Project menu, name the stack, and set the resolution and number of colors. The program will grind away for a while setting up the file for the new stack, then present you with a message directing you to move into Modify mode. Follow the prompt, then chose IFF/Import from the Edit menu to load the first backdrop. You can give each frame a unique name, which makes it easier to keep track of what is where in a complex stack. Frame naming takes effect, however, only after a round trip through Browse mode.

Press ESC to place an object in the frame layer or SHIFT-ESC to place one in the backdrop layer. The cursor will turn into a small set of cross hairs; click and drag out a rectangle where you want the object to be. Objects have properties (position on screen, appearance, fill, shadow, name, and so on) and value (text-string or numerical, which stores the data for manipulation). Choose these by multiple trips to the menu bar while still in Modify mode.

After you decide how the object will look and what (text, an IFF image, or nothing) it will hold, you must tell it what to do. I wanted the buttons at the bottom and in the upper-left corner of the screen to take the

user to another specific frame. When the user clicked on the graphic fill, I wanted a voice to say the name of the picture and ask for the user to spell the word. You issue your instructions via UltraTalk, the scripting language for objects, frames, and stacks.

In UltraTalk's built-in editor, you can type commands or cut and paste them from existing stacks. To move from frame to frame, use the JUMP statement, which demonstrates the importance of frame names. The program names each frame in numerical order as you create them and uses these names (or ones you substitute) for the jump addresses. (For a further discussion of UltraTalk, see the accompanying sidebar.)

When you have the first frame suitably equipped, you can easily reuse the same backdrop for the next frame. Highlight the Frame Add selection from Browse mode's Edit menu. Rename this copy of the previous frame, clear any buttons that do not carry over to the new frame, and add what you need. To add a new backdrop, use the Frame Add New BD selection from the same menu. This creates an empty frame and positions the cursor on it, so you can start from scratch. You can shift objects between layers by clicking on the object then choosing Object In from the Edit menu in Modify mode. If you intend to use the same backdrop and many of the same objects from frame to frame, however, place the repeated objects in the backdrop layer to avoid having to redo them for every frame. To temporarily store frames ►

An Instructive Talk

THE POWER BEHIND the scenes in UltraCard is the scripting language, UltraTalk. Every time you create an object, the program links it automatically with a script that provides the backstage directions for the object's performance. UltraTalk boasts 80 statements (BASIC-like commands), 23 expressions (arithmetic and logical operators that combine constants and variables), and 25 functions, as well as the possibility for user-defined functions.

You access the UltraTalk editor from Modify mode by double-clicking on an object or by selecting it (a dotted outline will appear around it) and then pressing F6 or choosing Script from the Properties menu. The best way to get a feeling for how UltraTalk works is by looking at some of the sample scripts included with the program. Choose an object that does something you find interesting and review the script statements that control it.

You can test statements of your own in Chat mode, which you enter via the Go menu in Browse mode or by pressing RIGHT-AMIGA-T. A one-line window will open at the bottom of the screen. Type in a statement and press RETURN to see what happns when it executes. Chat mode is handy for previewing commands to be sure they work before you commit them to your script.

One of the most frequently used statements, JUMP takes you to a designated frame, possibly even in another stack. Use it with the PUT statement to set a transition between frames or stacks. To do so, you use PUT to assign the number of the transition you want (15 variations are listed in the manual) to the global variable Visual.Effect. Use PUT twice more to place numbers (from 1 to 10) into Effect.Speed and Effect.Amount, which is the number of pixels from the new image that will appear on the screen at each step of the transition.

To branch to other programs, you use the CLI, WORKBENCH, and AREXX statements. CLI and WORKBENCH allow you to run independent programs as you would from the Command Line Interface or Intuition environment. AREXX starts an ARexx script.

The various FILE commands (GET, OPEN, READ and CLOSE) display text files in a multiline object, but you can make your presentations more vocal with the SAY and SOUND statements. SAY invokes the Amiga's speech synthesizer to read a specified string into the translator (where you take your chances with phonetic pronunciation), or if the string is preceeded by a tilde (~), sends the phonemes directly to the narrator device. The SOUND statements (LOAD, PLAY, STOP, WAIT, UNLOAD) let you play back IFF or FutureSound samples, with complete control over their rate, volume, and number of repeats. By using the ASYNC option while playing back a sample, you can execute another statement, such as a display, simultaneously.

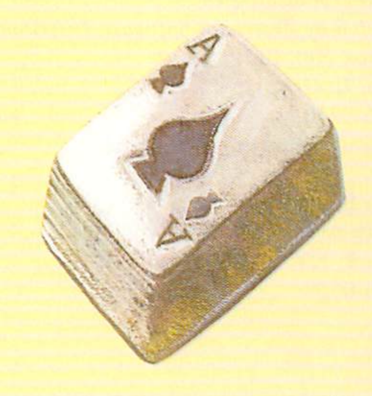
Consider the following button script from one of the sample stacks:

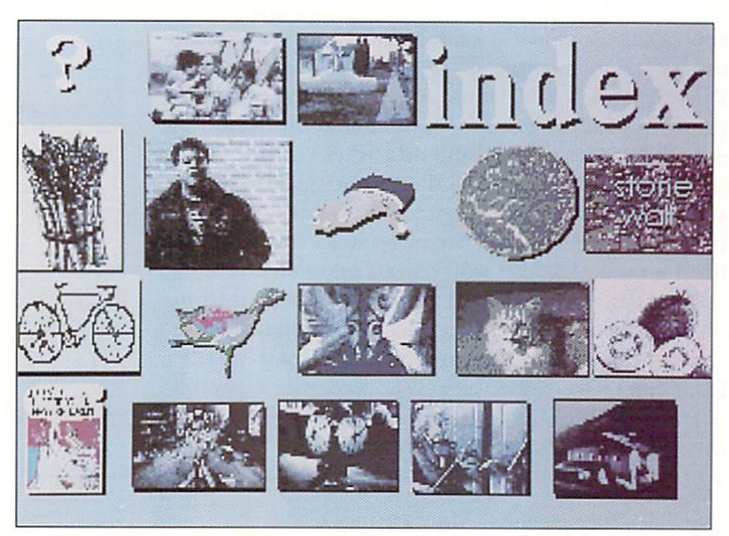
```
PLAY buzzer
PUT 1 into visual.effect
CURSOR wait
PUT 1 into fade
JUMP to frame 10 with effect
PUT 0 into fade
CURSOR ready
```

When you click on the button, the program executes the lines above: plays a digitized sound called buzzer, fades out the current screen, jumps to the destination, and fades it in.

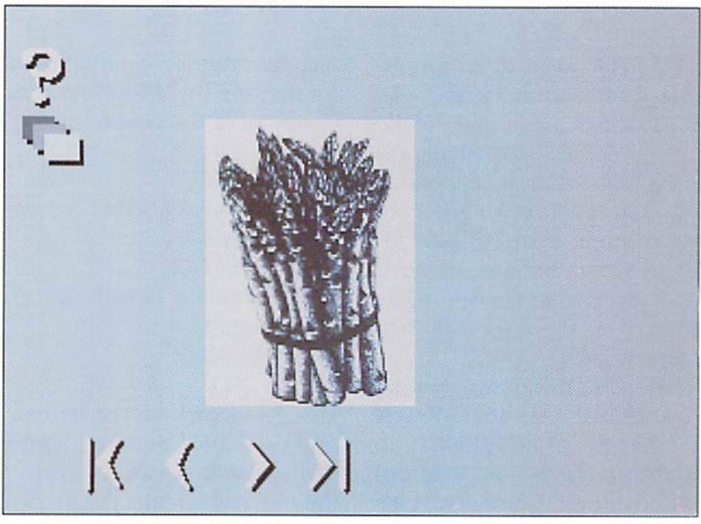
These are only a few of the possibilities offered by UltraTalk. Some familiarity with elementary programming techniques is helpful, but because the language is so straightforward, you can quickly discover how things work. □

—MH





The example stack's index card: Click on a picture to jump to a frame.



A typical screen in the sample project.

and objects, copy them into a clipboard and then paste them into place when needed.

For my project, I made and linked each frame in the order I wanted them. I then returned to each frame, adding UltraTalk's SAY statements, devices to check spelling input, and statements to display the list of associated words. Working in this order allowed me to make sure that each step of the process worked before moving on to the next.

Each time you edit a stack, it grows in size. By using the Compact Stack choice from the Project menu in Browse mode, you can eliminate a stack's wasted space, sometimes reducing its size by half. When you save the compressed version, it takes the original file's name while the fat stack's filename gains the suffix .old.

Generation Gap

Version 1.4 of UltraCard suffers from its ancestors. Version 1.1 barely worked and had a minimal manual. I'm glad to report 1.4 has almost all the kinks worked out and an expanded manual. Be warned, however: Incompatibilities among versions cause some stacks created with earlier editions of UltraCard to corrupt when you load them in a newer version. The developer, Mike Lehman, promises to fix any corrupted stacks you send his way.

The program is modeled after, and begs comparison with, Apple's Hypercard. Overall, UltraCard bears up well to the test. It is more flexible than Hypercard because of the Amiga's multitasking and color graphics. On the negative side, the program sometimes feels a bit slow getting information to the screen, and too frequent trips to the menu bar impede the process of creating a stack.

The manual could use a major expansion to explain many of the terms that will be unfamiliar to non-programmers. Until then, study the assortment of stacks that comes with the program. Find the features that do what you want, then cut and paste them into your own stacks or model your features after them. A less obvious source of information is *The Complete Hypercard Book, Second Edition* by Danny Goodman (Bantam Books, $29.95). While the book is specific to Hypercard, many concepts and features are similar to UltraCard.

Quibbles aside, UltraCard is relatively easy to work with for such a complex program. Its price of $50 is a bargain for the multitude of things the program can do for and with you. ■

Michael Hanish uses his Amiga for video and graphics work with both his performance group, The World Turned Upside Down, and his adult literacy students. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Manufacturers' Addresses

Intuitive Technologies
distributed by American Software Distributors
RR 1 Box 290, Bldg. 3
Urbana, IL 61801
217/643-2050
408/646-9147 (technical support)

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Circle 15 on Reader Service card.

HE'S USING IT TO UNTRAP HIS SON.

DR. ELDO BERGMAN, CHILD NEUROLOGIST AND SON PHILIP.



Pretend that all the written words in the world: books, newspapers, warnings on medicine bottles, pretend all of it was a puzzle to you; incomprehensible; a source of embarrassment and *terror.*

To millions of people it is; children, adults, wrongly diagnosed as unintelligent or lazy or crazy; people who are none of these things but, like Dr. Bergman's son, dyslexic.

Three and a half years ago, Dr. Bergman decided to try something. Computers, he knew, could *talk*, and by talking might, just might, get his son, and others, out of a trap.

It worked. His son and others are able, suddenly, to "read" by listening; able to comprehend.

And no longer dependent on teachers who don't have time, tutors who cost money.

Philip can now learn as fast as he can think. Dyslexics, it turns out, are often extraordinarily fast thinkers. (Especially when given something to think about.)

Dr. Bergman is accomplishing this small miracle with the Amiga computer. The faster Philip races to catch up with himself, the farther the Amiga can take him: from listening to comprehending to reading to... who knows?

(And later, to create pictures, animate them, three-dimensionalize them, suffuse them with thousands of colors; to arrange, to play, to compose music. The Amiga can do all of this now, not 50 years from now.)

Is Dr. Bergman satisfied with the way things are going? Not entirely. Dyslexic students and their parents embrace what he's done. The schools, meanwhile, are "observing" the situation. Bergman is raising funds now himself for other school districts.

For information on how his program works, the software he's using, or just to offer him a little encouragement, write Dr. Eldo Bergman, at Intelligent Learning Systems, 5322 West Bellfort, Suite 116, Houston, Texas 77035.

CASE NO. 44

HE'S USING IT FOR INVENTORY CONTROL.

PAUL MICCA. COLLECTOR. PATCHOGUE. NEW YORK



Analyze!—registered trademark of Micro-Systems Software.

Paul is 12 and already facing a challenge not unknown to America's most sophisticated corporations: inventory control.

Paul's problem stems from a vast collection of *baseball cards*.

How vast?

How valuable?

How much appreciation (or depreciation) are we talking about?

What is the acquisition date of each item?

What was the cost basis?

Rest easy. Paul has the answer to everything: an Amiga computer. Using Analyze!, an Amiga spreadsheet, Paul can enter, revise, juggle, update, push around, compare, analyze, fix, store, retrieve, re-format, delete, and *ponder* anything, anything at all, that seems pertinent, interesting and *necessary* to get a handle on his collection.

With an Amiga, Paul doesn't have to stop and get swallowed up reading a dumb manual on how to run his computer; he just *points* and *clicks* (which means, for those corporations unfamiliar with such things, holding a thing called a "mouse" and moving *it* in order to move your *commands* into the computer; Paul learned to do it in under 11 seconds; you can do it too.)

What's next?

Well, to tell the truth, Paul is already restless. Step one was *too* easy. Now Paul is going to add a graphic database. Good thing the Amiga happens to be a genius at high-resolution color graphics. (The Amiga has thousands of colors *built-in.)*

Imagine experiencing Paul's entire inventory in color.

Acquisitions and mergers can't be far behind.

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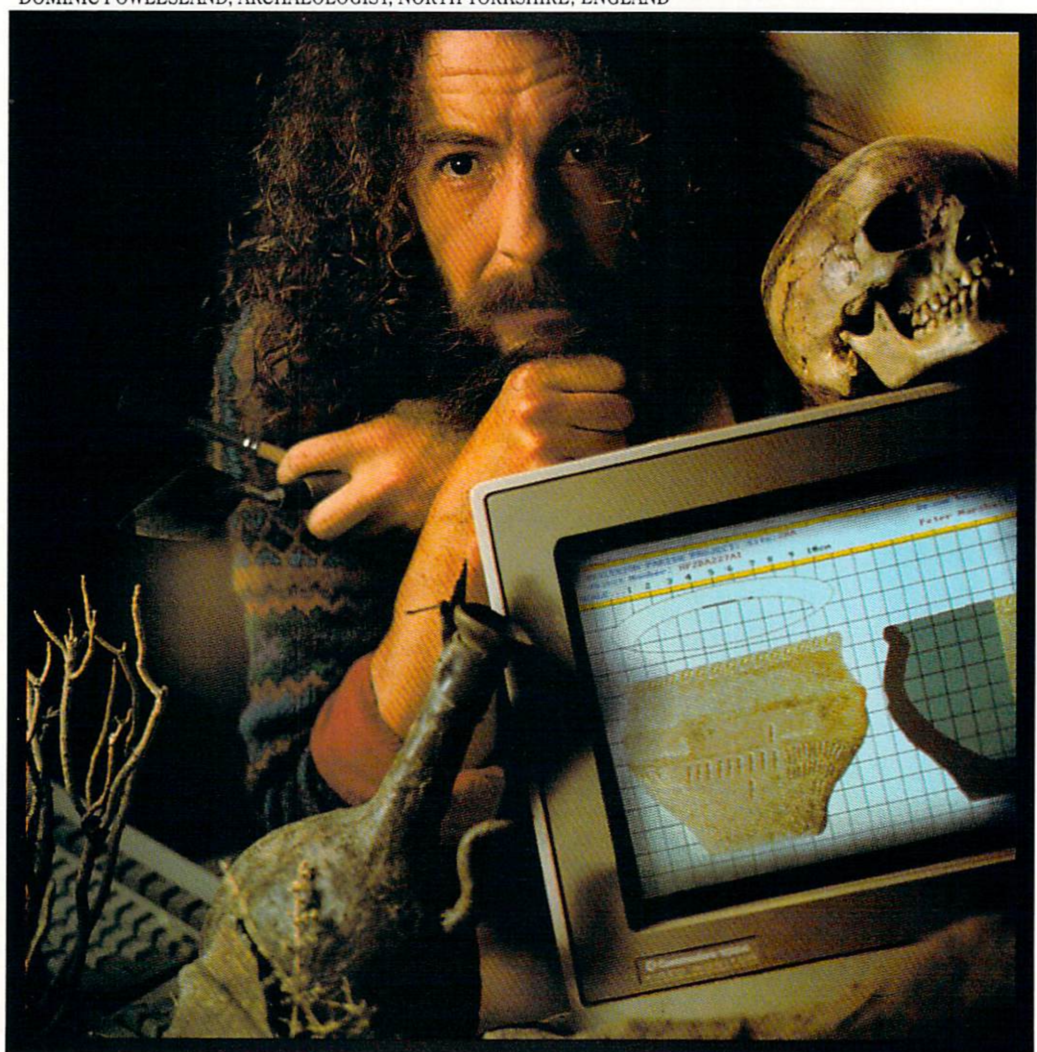
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C= Commodore®

CASE NO. 39

HE'S USING IT TO STOP DESTROYING HISTORY.

DOMINIC POWLESLAND, ARCHAEOLOGIST, NORTH YORKSHIRE, ENGLAND



He was 11 years old when his father, a bridge designer, came home one night with a handful of broken pottery.

That did it.

Today, at 34, he is Director of the largest archaeological dig in Northern Europe, an Early Anglo-Saxon or Dark Age village attracting 27,000 visitors (as the word spreads) and also hundreds of volunteers, many who *pay* for the privilege of working long hours digging meticulously under his supervision.

"Unlike other scientific experiments, archaeological excavation is unrepeatable; each site can only be examined by its destruction."

Accordingly, Powlesland avails himself of every trick and tool and technology available: aerial photography, magnetometer and laser surveys, video photography; each makes its own contribution to an immense database well before excavation begins. The atmosphere on site is forensic, like at the scene of a crime.

Presiding above it all, a computer stores, organizes, analyzes, retrieves and presents every exacting step and physical fragment of the process.

Which computer? Guess.

Powlesland's objective dictated the choice: "...to achieve a point where all data, whether text, drawings, stills or moving images, can be accessed on a single computer using a single software package. Only the Amiga had the combination of computer power and video facilities that make such an objective achievable."

We've saved the best part till last. What excited Dominic Powlesland when he was 11 is what excites him even more today: seeing an entire way of life begin to unfold coherently, in detail, almost as if it were your own life, except for being half a million days ago.

To catch the bug, write for Powlesland's "The Heslerton Anglo-Saxon Settlement," The Old Abbey, Yedingham, North Yorks, YO17 8SW, England. $10, postpaid.

CASE NO. 91

Circle 15 on Reader Service card.

HE'S USING IT TO MAKE PEOPLE JEALOUS.

JEFF ZAREMBA, COMPUTER SYSTEMS ANALYST, NEW YORK CITY



You know the routine. You get invited over to see the movies about their vacation.

While you were living through winter and salt stains on your shoes, these suntanned, laughing people were off some where being silly and foolish and you wish you could have done the same.

To add insult to injury, their movie about their trip to the Caribbean looks better than your movie about your trip to the lake. The movie *itself* looks better. How come?

No explanation forthcoming. But obviously he's managed to add titles that don't look at all like the usual home-movie titles. They materialize from somewhere way off in the distance like you see on TV and then they turn and at the same time they change color.

Later on in the movie this so-called friend of yours has *more* titles, indicating locations, like some kind of high-class documentary.

You're not going to give him the satisfaction of asking how he accomplished all this. But he tells you anyway. He used an Amiga computer which is "what they use in Hollywood and at TV stations to do graphics and videos and animation and stuff like that" and now he expects you to believe that an Amiga doesn't cost all that much.

Well, he's right. Don't get mad. Get even. Get an Amiga of your own: professional graphics and animation in one affordable home computer.

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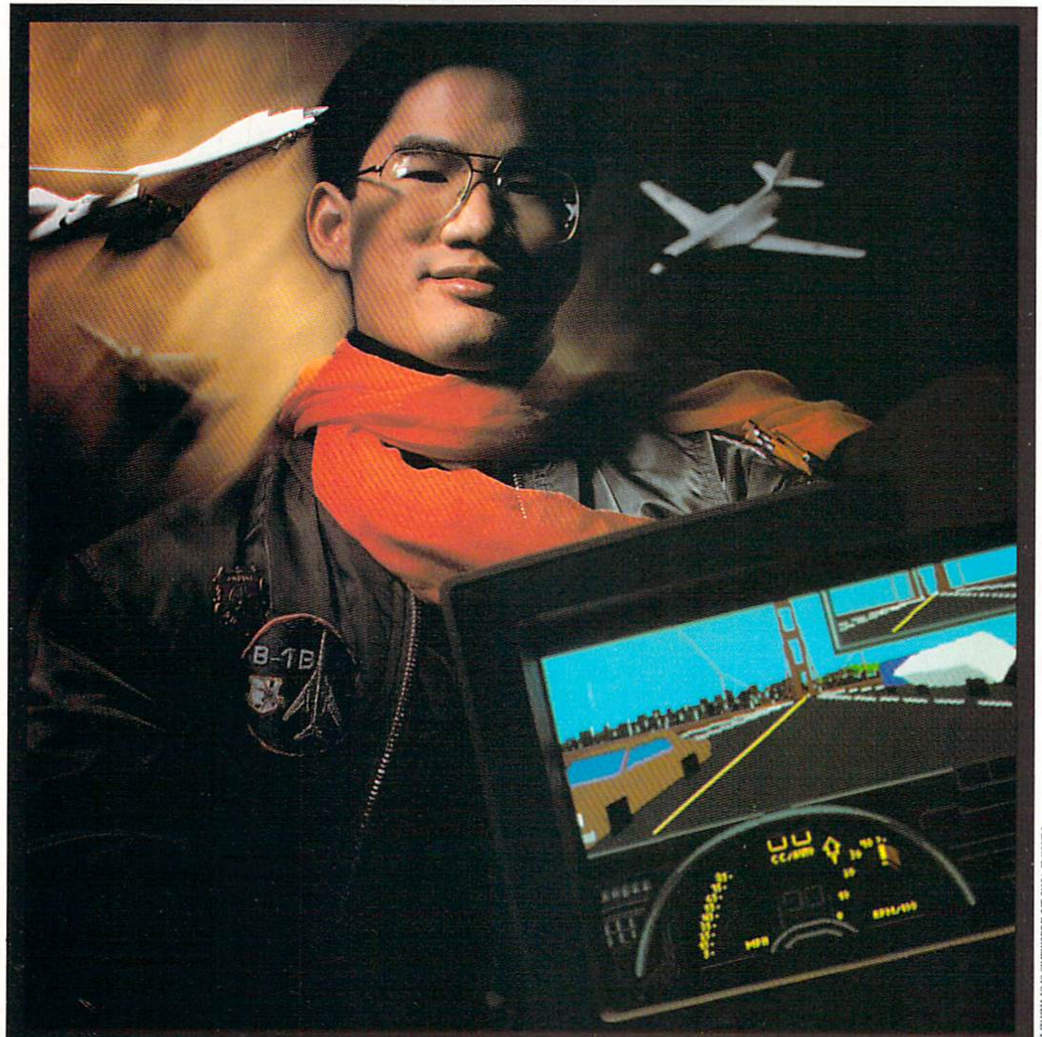
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CASE NO. 311

Circle 15 on Reader Service card.

HE'S USING IT TO GIVE THE PENTAGON WHAT THEY ASKED FOR: MORE REALISM.

GILMAN LOUIE, CHAIRMAN/CEO, SPHERE, INC. (SPECTRUM HOLOBYTE)



Falcon & Vette are trademarks of SPHERE Inc.

When he was growing up, he wasn't given fancy toys to play with. He was given cardboard.

So he learned to use his imagination.

The TV set was rarely ever unlocked. He remembers once when it *was:* the moon landing. His parents considered that to have merit.

Now Gilman Louie is 29, Chairman and CEO of his own brilliant, small company and staff of 52 very talented people.

"My talent is to inspire programmers... to give them a vision of what was thought to be impossible. I surround them with compelling details: dirt, tanks, clothing, sound effects and ideas. They turn that into reality."

His "games" are so real, so minutely real and emotional, that the Pentagon called him recently to see if he might be interested in injecting more reality into the flight simulators used for training U.S. pilots.

Yes, he was interested.

After a few flights in KC135s, with the "booms" down to refuel B1s and B52s, Gilman Louie, having soaked up everything, came back to his people, told them exactly what had to be done.

His company now builds flight simulators that are *quite* a bit more realistic, to say the least.

If you'd like a taste of how realistic, you can look at "Falcon," the game that made the Pentagon call in the first place; or "Vette," his latest. Or you can join the U.S. Air Force.

The computer he uses is the Amiga, of course. Gilman Louie, an authority on realism, feels that the Amiga's sound and animation capabilities are truly "unmatched." Who are we to quibble?

CASE NO. 412

Circle 15 on Reader Service card.

SHE'S USING IT TO WRITE SONGS.
SARAH MICCA, COMPOSER, PATCHOGUE, NEW YORK



Sarah is 14 and has a couple of words of encouragement.

For those of you who cannot read music, cannot write music, but definitely *feel* music (and feel it at the oddest times) and wonder if there's any way to ever get the music that's *in* you out on the table, so to speak... Sarah has this to say: "Get a computer. An Amiga. Put some notes on the screen. Just do it. See how it sounds... you've just written your first music. Now change it a little until you get something you like. And soon you will..."

That's how Sarah started. Now she's a composer. She hasn't been invited to Carnegie Hall yet, but something even better has happened: "It makes me proud of myself that I can *do* something."

And she *is* composing songs. "The most exciting thing I've ever done is when I first wrote some songs on the Amiga. I just felt so happy."

To come back to earth for a minute, Sarah also had this to say: "The Amiga saves me *days* of time." Now she's talking about something else – schoolwork.

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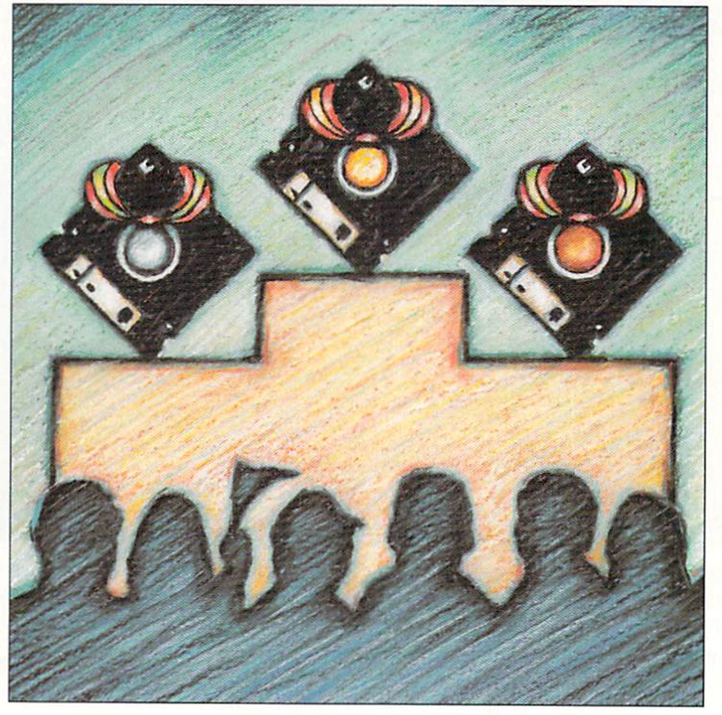
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CASE NO. 40

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Bringing Home the PD Gold

As the Avery Brundage of the Public Domain Olympics, PLink moderator Laser dishes out some medals to his Top 20 PD Picks.



AS AN AMIGA user, you are blessed with a rich variety of public-domain software from which to choose. Hundreds of talented developers have contributed thousands of programs to the ever-expanding PD universe. Whenever a gap has appeared in the Amiga's software base, someone has usually been right there to fill it. Many public-domain offerings actually improve upon certain aspects of the Amiga's system software; in fact, some of the utilities and programs on your Workbench 1.3 disk began life in the public domain.

Any "best-of" list is open to debate, but these are the programs I would suggest to any new Amiga owner who asks for the "must-haves." This list could easily be expanded to 200, but we will draw the line at 20. Every one of these programs will add to the enjoyment your Amiga brings you. They will make your work easier and more fun. They'll save your butt when you get in trouble, and they'll help you graduate from novice to power user.

You may notice that there are no pictures, animations, or musical scores on this list. Amiga art and music are categories best handled separately. There are no screen display hacks, either; you can find dozens of these, and each is cute or bizarre in its own way, but there is not room for them on a top 20 list. There are no demos of commercial software. Also, I have excluded programs that require you to own a specific piece of commercial software; only one program here, SetCPU, requires special Amiga hardware.

Each entry includes the author's name and either a file number from PeopleLink's AmigaZone library, a Fred Fish disk number, or both. PLink is a national network to which thousands of Amiga owners subscribe; many of the authors listed below frequently contribute to the AmigaZone. Fred Fish disks are available directly from Fred Fish or through dealers and users' groups, usually for a small fee.

To join PeopleLink and gain access to the AmigaZone, call 800/524-0100 (voice) or 800/826-8855 (modem). For a catalog of Fred Fish disks, send a SASE and four loose stamps, or $1 to: Fred Fish, 1346 W. 10th Place, Tempe, AZ 85281.

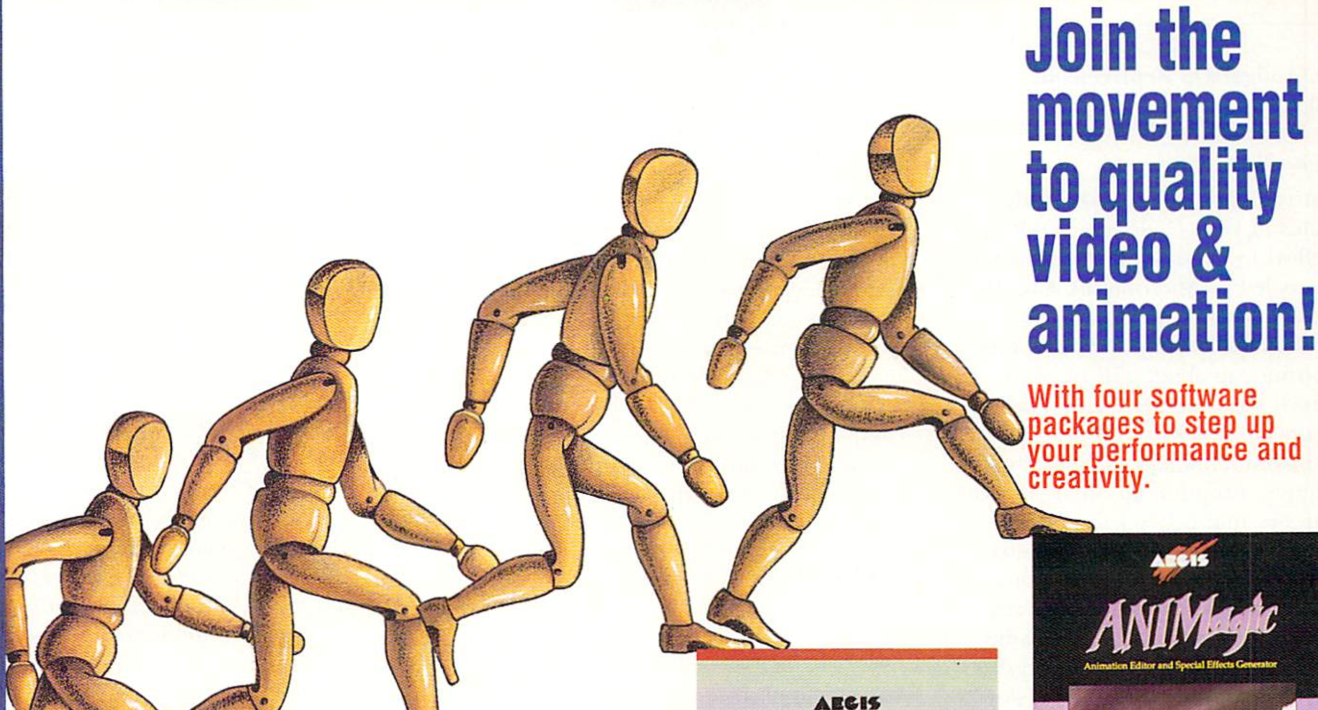
PLink and Fred Fish are just two of the most popular ways to obtain public-domain software, but there are others. Check other networks or your local bulletin boards if you own a modem. Also, many users' groups compile their own disk collections, which contain many of these programs. ►

By Harv Laser

ILLUSTRATED BY DOUGLAS BOWLES

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AEGIS VideoScape 3D
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VideoScape 3D™
High-speed 3D Animation
Lightning speed makes Videoscape 3D the best-selling 3D animation program for the Amiga® Computer. Take seconds to do animations which require hours with other programs! Control light sources, camera and object motions, background and sky colors for incredible 3D movies. Set start and end shapes and have the program generate intervening frames.

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List Price: $199.95

AEGIS ANIMagic
Animation Editor and Special Effects Generator
For the Amiga Family of Computers

ANIMagic™
3D Animation Special Effects Generator
Spectacular 3D effects from your IFF files and ANIM™-style animations, including spins, page-turns, venetian blinds, confettis, strobes, and color effects like solarization, shadows, translucency, masks and cycling. With ANIMagic, you create effects rivaling those on network T.V.!

- Cut-and-paste edit and adjust color on single frame or throughout an animation.
- Looping.
- Record to memory or disk.
- Link ANIMs for longer movies.
- Supports all resolutions and color modes: HAM, half-brite, interlace, medium and severe overscan.
- Includes library of 21 effects like fountain and shutter-flip.
- Supports NTSC and PAL.
- Uses ANIM or IFF-format files.

List Price: $159.95

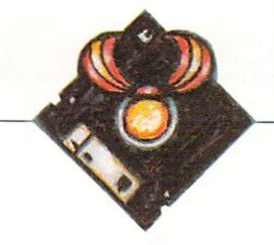


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1. ARP (AmigaDOS Replacement Project) 1.3
Charlie Heath, et al.
AmigaZone file #16909

A robust replacement for most of the commands in your C: directory, ARP is a major effort by a group of very talented developers led by Microsmiths' Charlie Heath. All of ARP's commands are smaller than their AmigaDOS counterparts, saving you about 35K on your Workbench disk. It comes with a brilliantly conceived installation program and "arp.library," which contains, among other things, a routine for an all-purpose file requester that is faster than the AmigaDOS standard. ARP commands support the * wildcard character, environment variables, and resource tracking. Some ARP commands can handle multiple sets of arguments. The on-disk documentation includes UserDocs (for general users) and ProDocs (for programmers). Commodore plans to support many of ARP's concepts and features in version 1.4 of the Amiga operating system.

2. VirusX 3.2
Steve Tibbett
AmigaZone file #16114
Fred Fish disk #216

VirusX 3.2 (a newer version should be widely available by the time you read this) is simply the best Amiga virus detector/eradicator available anywhere. It monitors your Amiga's memory and checks every inserted disk for bootblock infection.
VirusX comes bundled with KV by Dan James, a separate program that scrutinizes your programs for the IRQ virus. Also, if you discover a new virus, send it to Tibbett; he'll analyze it and make sure that future versions of VirusX can detect and eradicate it.
Note: Avoid a VirusX version labeled 3.3—it wasn't written by Steve Tibbett, and it may in itself harbor a virus.

3. SuperView 3.0
David Groethe
AmigaZone file #19417

The best of the IFF display programs, tiny SuperView can display a diskful of picture files in slide-show form without requiring you to write scripts. It offers many command-line switches, and it can handle those newer SuperBitMap and severe overscan pictures. With version 3.0, SuperView can now display animations (Movie format animations being a notable exception). As with all good utilities, if you need to refresh your memory of any of SuperView's features, just type its name by itself at a CLI prompt for a complete list of commands. SuperView is *the* viewer to have when you forget the names of those obscure, little-used IFF files.

4. DiskSalv 1.42
Dave Haynie
AmigaZone file #19565
Fred Fish disk #251

You wouldn't drive a car without a spare tire in the trunk; don't boot your Amiga without DiskSalv. If you have a disk full of valuable files (either floppy or hard drive) with a read/write error and no backup copy, you can, in most cases, resurrect your files with DiskSalv. DiskSalv doesn't write to the damaged disk, like Commodore's DiskDoctor. Instead, it tries to salvage as much as possible from it, writing the resurrected files to another disk or device. You can even use it to "undelete" files you inadvertently erased. Although currently a CLI-only utility, the latest version comes with a brief peek at a future version of DiskSalv that will have an Intuition interface.

5. ASDG Recoverable Ram Disk "VD0:"
Perry Kivolowitz
AmigaZone file #18539
Fred Fish disk #241

The contents of the RAM: disk are lost if you reboot or encounter the Guru. Commodore's slick RAD: disk is recoverable, but its size is fixed by the mountlist; an 800K RAD: eats up 800K, even if it's empty. VD0: combines the best features of RAM: and RAD:. Its contents will usually recover from a reboot, and it eats only as much memory as the size of the files you've put into it. This one is indispensable.

6. File Compressors

If you do any downloading from bulletin boards or national networks, you need a file compressor. Even if you don't do any downloading, but just want to pack a lot of data onto a disk for archival storage, a file compressor is the answer. There is no way to label one of these as the best of the lot, so I have lumped them all together here.

ARC 0.23
Raymond S. Brand; based on code by System Enhancement Associates
Type of file it handles: .ARC
AmigaZone file #5666
Fred Fish disk #70

The first "serious" Amiga file compressor/librarian. Its main drawback is its MS-DOS heritage; it doesn't understand long Amiga-style filenames or subdirectories. But there are still more ARCed files out there than any other kind, so this is a good program to have around.

PKAX 1.0
PKWare, Inc.
Type of file it handles: .ARC
AmigaZone file #13087

Strictly an .ARC file decompressor, PKAX is lightning fast. It can test, modify, or peek into ARC files, although it cannot create them. Use ARC 0.23 to create .ARC files; use PKAX to decompress them.

ZOO 2.00
J. Brian Waters; based on code by Rhaul Dhesi.
Type of file it handles: .ZOO
AmigaZone file #12241
Fred Fish disk #164

Similar to, but more powerful than ARC, ZOO compresses files smaller than ARC, but in some cases not as well. Owing to its UNIX heritage, ZOO does understand long filenames and subdirectories. ZOO cannot nest archived files.

LHARC 1.00
Paolo Zibetti; using some code by Haruyasu Yoshizaki.
Type of file it handles: .LZH
AmigaZone file #19961

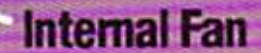
A new contender among Amiga file compressor/librarians, LHARC creates and unravels .LZH files, and although it's slower, it compresses better than either ARC or ZOO on *all* types of files. ►

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SCSI 3.5" Hard Disk Drive, available from 20MB to 102MB, capable of storing up to 116 floppy diskettes.

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DMA direct to onboard 16KB buffer, provides A2000 performance with no DMA side effects.

86 PIN CARD EDGE CONNECTOR
This compact snap-on unit connects directly to the Amiga bus, ensuring the highest possible performance and reliability.

AUTOBOOT FEATURE
Allows the A500 to be booted directly off the hard disk, no floppies required! All hard disk partitions can be Fast File System partitions.

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Up to 4MB of ZERO-WAITSTATE, FAST RAM can be added internally.

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Allows up to six additional SCSI devices to be attached.

DEDICATED POWER SUPPLY
Robust power supply is included so that your A500 is not over-loaded.

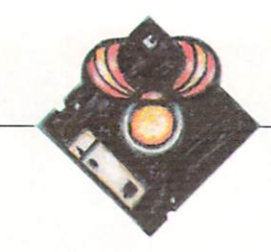


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Consumers Circle 127 on Reader Service Card



LHARC handles long filenames as well as subdirectories. Due to the proliferation of .LZH files, LHARC has become another "must-have." Expect to see new versions of LHARC by the time you read this.

WARP 1.11 and UNWARP 1.00
SDS Software
Type of files they handle: .WRP
AmigaZone file #18864
Fred Fish disk #243

WARP, unlike the other file compressors listed here, doesn't care about filenames or subdirectories. WARP packs entire disks or ranges of disk tracks into a single file to send via modem. When unwarped, the receiver has an exact duplicate of the original disk's complete file structure, right down to the disk icon. The new UNWARP utility is blindingly fast.

PKAZIP 0.91
PKWare, Inc.; Amiga version by Dennis Hoffman
Type of files it handles: .ZIP
AmigaZone file #19805

Soon to be a major contender among file compressors, PKAZIP sports a complete Intuition interface. A Beta release of an "unzip-only" version began circulating at the time this was written.

7. PowerPacker 2.3B
Nico Francois
AmigaZone file #19910
Fred Fish disk #253

If you're always trying to cram just one



more program onto your crowded boot disk, you'll love PowerPacker. It takes almost any Amiga program or file and squashes it down to half its original size to reclaim disk space. PowerPacked programs, when launched, will automatically "unpack" themselves in a second or two, and then operate normally. The program has five levels of compression, a clever script feature to automate multiple packing sessions, and many other parameters. The latest version saves your favorite settings in a disk-configuration file. PowerPacker is one of a few public-domain programs that has the look and feel of polished commercial software.

8. COMM 1.34
Dan James
AmigaZone file #6003
Fred Fish disk #71

The first reliable public-domain terminal program for the Amiga, Comm has been around for a few years, and it has been the inspiration for many others. Comm is not fancy, but it's functional, with Xmodem, Xmodem-CRC and WXmodem file-transfer protocols, mouse menus, an easy-to-edit pull-down phone book that holds 44 numbers, 20 macro keys, a split-screen "chat" mode for network conferencing, hi-res interlace capability, and scads of other features. You can modify Comm with the accompanying C source code. AZComm adds the fast Zmodem protocol.

9. ScreenX 2.2
Steve Tibbett
AmigaZone file #13445
Fred Fish disk #158 (v. 2.1)

A slick multi-purpose utility from the author of VirusX, ScreenX is a menu-bar memory meter and real-time clock that runs in the background. When activated, it lets you shuffle through any existing screens, including those in programs that don't have their own front/back gadgets. ScreenX can save any screen to disk as an IFF picture. ScreenX is considerate of your system resources, and is just plain handy to have around.

10. NewZap 3.18
John Hodgson
AmigaZone file #14845
Fred Fish disk #164

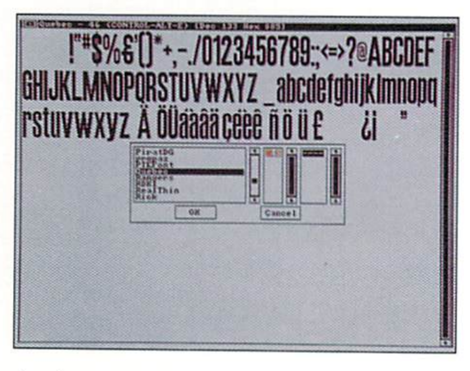
NewZap is a binary file editor. Unlike text editors, which let you edit text files, NewZap lets you enter and edit programs. For example, if you have a hard-coded program that expects a disk to be in drive DF0: every time you run it, NewZap will let you change all references to DF0: to some other device name, right in that program's code. NewZap isn't for novices, but it's a very powerful tool for advanced users who need its capabilities.

11. ConMan 1.3R2
William Hawes
AmigaZone file #18423
Fred Fish disk #165 (v. 1.3)

A must for any CLI user, ConMan enhances the CLI environment to provide command-line editing and command-line history. If you misspell a word, just hit your up-arrow key, and there's your command at the CLI prompt again, ready for you to correct it. ConMan also lets you shrink and expand the current console window, and much more.

12. ShowFont 4.0
Arthur Johnson, Jr.
AmigaZone file #18390

ShowFont reads your assigned FONTS: directory and lets you choose which font (including ColorFonts), in whatever point size, you'd like to see, then displays the entire font in any of the four stan-



dard screen resolutions, from two to 16 colors. Click on any of the special characters from that font, and ShowFont will tell you which keyboard sequence generates them. No other utility does what ShowFont does, and Johnson just keeps improving it.

13. Find 1.1
John Scheib
AmigaZone file #14416

It's easy to lose track of programs and ►

MEGA GAMES FOR MEG-AMIGAS

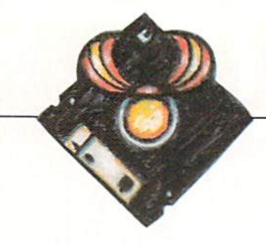
They look, feel, and play like real Arcade games ... because they are — the same games running on 1-megabyte Amiga boards inside the coin-operated cabinets!

Now you don't have to wait your turn at the Arcade to play these high-energy games ... just take them home to play on your 1-meg Amiga!

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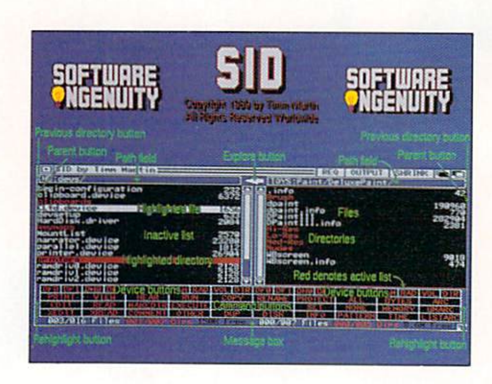
files when you're working with a hard drive. If what you're looking for is on one of your mounted volumes, Find will find it. If you can't remember the entire filename, Find will accept a partial filename accompanied by a wildcard. Find is very fast, and if you forget how to use it, just type its name and it will tell you. This is one of those tools that you won't use every day, but you'll be glad to have it when you need it.

14. LS 3.1
Justin V. McCormick
AmigaZone file #18632
Fred Fish disk #236

LS is a directory lister with dozens of commands and arguments. It will display the names of files, directories, or both. LS will ignore filenames you don't want to see (such as .info files), and sort or format its output in a myriad of ways: by file date, file size, number of columns, or rows. The more you use LS, the more capabilities you will discover.

15. SID 1.03
Tim Martin
AmigaZone file #19425

A directory-utility program gives you a way to move, copy, delete, and manipulate disk files with the mouse, instead of



typing in commands. There are dozens of directory-utility programs, each slightly different, some with more or better features than others. SID is a recent entry into this arena, and it could be the best yet. One feature of SID that I haven't seen anywhere else is its ability to identify disk files by their type (program, picture, sound, text, etc.) and then launch the corresponding viewing or playing utility when you click on a filename. Click on a picture's filename to see the picture. Click a sound's filename to play the sound. Click a text filename to read the text. SID is big, powerful, customizable, and very ingenious.

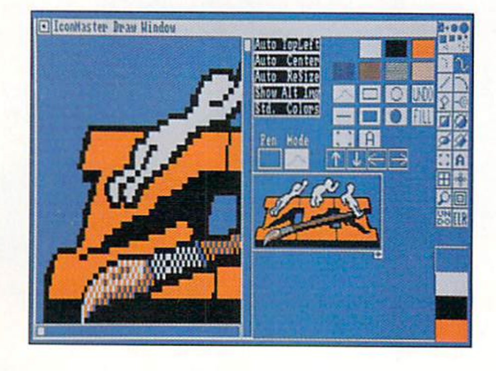
16. Icon Creating and Manipulating Programs

IconMaster
John Scheib
AmigaZone file #17622

IconMeister 1.4
Mike Bodin
AmigaZone file #16646

IconLab 1.2
Hermes
AmigaZone file #14908

The competition in this category ends in a three-way tie. All three of these programs offer an excellent alternative to



Workbench's IconED. Similar to paint programs, these icon editors let you create, edit, and modify all types of Workbench icons, change an icon from one type to another, convert IFF brushes to icons or vice versa, add fonts to icons, and more. Try all three; each author has a different philosophy about what makes a good icon editor.

17. Sound
Richard Lee Stockton
AmigaZone file #15302

Sound takes any file you give it and tries to feed it to the Amiga's audio.device and out your speakers. Sound will give the best results with files that actually are sampled sounds, but it will play *any* file or program, even a picture, although non-sound files will come out as noise. Sound has parameters you can add to its command line to toggle stereo on or off, play a sound more than once, play a sound at a higher or lower sampling rate (speed), and play multiple files. Sound loads sound into fast RAM and uses very little chip RAM to operate, so large sampled sounds are handled easily. At a mere 7600 bytes, Sound can squeeze onto even the most cramped Workbench disk.

18. SetCPU 1.5
Dave Haynie
AmigaZone file # 17780
Fred Fish disk #223

With his name etched onto Amiga 2000 motherboards, Commodore hardware engineer Dave Haynie is a master of the machine. He writes utilities that power users love, such as SetCPU. With this program, owners of 68020/30 Amigas with 32-bit RAM can copy the Kickstart ROM code into that superfast memory and have what amounts to a turbocharged Amiga. SetCPU's other benefits include CPU identification, cache line-burst modes, and the ability to load a different version of Kickstart into Amigas that have Kickstart in ROM.

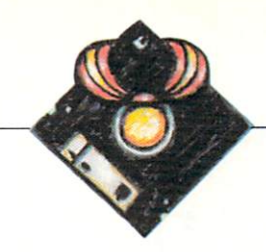
19. Mouse modifiers/Window flippers/Screen blankers

QMouse 1.6
Lyman Epp
AmigaZone file #17102

DMouse 1.20
Matt Dillon
AmigaZone file #19032
Fred Fish disk #258

MachII 2.6
Brian Moats
AmigaZone file #19489
Fred Fish disk #254

Another three-way tie. These multifaceted programs modify the way your mouse interacts with screens and windows. They all provide a plethora of features, such as: Screen blanker (saves your monitor's phosphors when the monitor is on, but not in use); Pointer blanker (makes the mouse pointer vanish temporarily); Mouse accelerator with configurable threshold; Automatic window activation (like a Sun Workstation); hot keys; Window-to-front and Window-to-back controls; and Screen shuffle.



Each of these comparable utilities has a devoted following. Try them all.

20. Tetrix 1.1
David Corbin
AmigaZone file #15221
Fred Fish disk #173

I wanted to include at least one game in this list, and Tetrix is my favorite. Your goal is simple: Try to arrange the falling blocks so that your screen doesn't fill up with them. The blocks fall into rows, and each complete row vanishes to make room for new rows. As you progress, the blocks fall faster. Tetrix is addictive, and it will give you a good test of hand-eye coordination. Also, it multitasks beautifully, so it makes a wonderful diversion while you're downloading all of these other great public-domain programs. ■

Harv Laser is SysOp of PeopleLink's Amiga Forum and writes extensively about the Amiga. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Is It Free, Or Is There a Fee?

NOT EVERYTHING IN the public domain is free. In many cases, the term public domain is a misnomer. There are actually three different categories of software that are grouped under the banner of public domain:



Freely Distributable This is what we normally think of as public domain. You can acquire and modify a freely-distributable program for no charge.

Copyrighted Freeware This type of program is free to the public; however, the author maintains a copyright. The program is the property of the author; by acquiring it, you are licensed to use it, but you cannot modify it without the author's permission.

Shareware The author requests a token fee, usually $5 to $40, if you use and enjoy the program. Strong public support for a shareware program will encourage its author to work on upgrades. A shareware program can be, but is not necessarily, copyrighted.

The opening credits that most authors include at the beginning of their programs will let you know what type of program you're dealing with. □

—HL

SHARP COLOR SCANNERS. THE FULL SPECTRUM.



Sharp's new JX-600 brings the capabilities of high-end commercial scanners to the desktop. It scans slides, transparencies and artwork up to 11″ x 17″, at resolutions from 30 to 600 dpi. The JX-600 uses a range of 1 billion colors for precise color matching.



The JX-450 has become the scanner of choice for professional desktop publishers and computer artists. It scans originals up to 11″ x 17″ at 300 dpi and offers the option to scan slides and transparencies.



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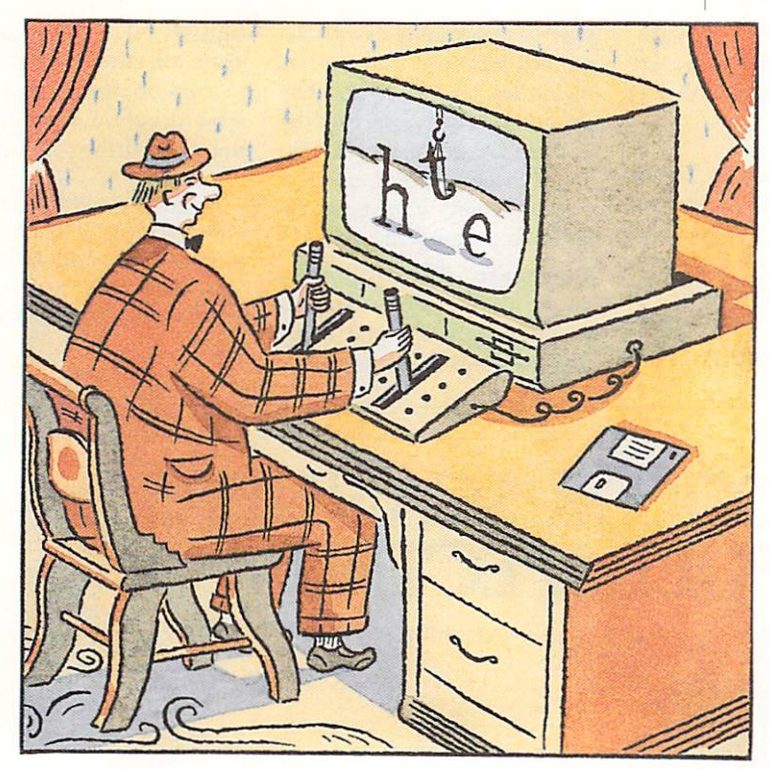
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Take Ten and Master MEMACS



Don't be intimidated by the enormity of MEMACS. You can tame 1.3's complex text editor with only ten commands.

FOR THE PENNY conscious, the 1.3 Extras disk offers a powerful text editor suitable for program listings or letters to your aunt. And the price is right—free. Found in the tools directory, MEMACS is a mouse-and-menu version of MIT's massive editor, EMACS. If you can think of a text-editing function, odds are EMACS has a command to do it. We know of no other editor, for example, that has a command that swaps two characters. (How else are you supposed to turn "teh" and "hte" into "the"?) The drawback is that EMACS and its previous microcomputer counterpart, MicroEMACS, make you learn special control-key sequences for all its commands—quite a litany to remember.

In MEMACS, menus lighten the memorization load, while the arrow keys and the mouse let you move the cursor around the document more easily. Still, these aids force you to pick up your fingers from the keyboard, and clutch the mouse for almost all common editing tasks, which can get to be a drag, breaking the flow for touch typists. As a compromise between relying totally on one system or the other, you can memorize ten commands essential to basic editing, and use menus for the rest.

First, crank up MEMACS by double clicking its Workbench icon or by typing the CLI command:

"Extras 1.3:tools/MEMACS" file_name

If you copy MEMACS into a directory in your search path, you need only type:

MEMACS file_name

As a precaution while you are learning, specify a copy of a file you know well for file_name.

When MEMACS starts, it shows you a window of text that consumes the entire screen, regardless of the size of the Workbench or CLI window in which you started it. At the top of the MEMACS window is a typical Amiga menu bar. The bottom sports a special line known as the mode line. MEMACS uses the mode line to display status information about the editing window in which you are working. The contents of the mode line varies from standard information, such as the name of the file you are editing and whether you have modified that file (signified by an asterisk as the second character), to transient prompts and requests for information, such as a search string.

SPEAK THE LANGUAGE

MEMACS features two types of commands: CTRL-key combinations and meta sequences. You perform ►

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CTRL-key commands by holding down the CTRL key while you press another key. For the command shortcuts shown in its menus and in the MEMACS documentation, MEMACS denotes such characters with a caret (^) followed by the other character, as in ^C for the combination of CTRL and C. You issue meta command sequences (named for the META key on the original MIT terminals) by first pressing the ESC key and then pressing another key. The MEMACS documentation uses the notation <ESC> followed by the command's letter, as in <ESC>f or <ESC>b. (The MEMACS menus show a variation; for example, ESCf rather than <ESC>f.)

To help you remember the commands' functions, keep in mind that the letter portion of each command is often the first letter of its name. As a further aid, the CTRL and meta uses of a letter are often related. If you know what one does, you can often correctly guess the function of the other. For a summary of commands, see the accompanying charts.

Ten Basic MEMACS Commands

Key Sequence	Command Function
^B	Move the cursor backward one character
^X^C or ^C	Exit MEMACS
^D	Delete the next character
^F	Move the cursor forward one character
^K	Delete, or kill, to the end of the line
^N	Move the cursor down one line (next line)
^P	Move the cursor up one line (previous line)
^V	View the next page
^X^S	Save the file
^Y	Yank the contents of the kill buffer

Related Useful MEMACS Commands

Key Sequence	Command Function
^@	Set mark
^R	Search backward ("reverse search")
^S	Search forward
^T	Transpose characters
^W	Wipe region
^X^W	Save as file
<ESC>f	Move the cursor forward one word
<ESC>b	Move the cursor backward one word
<ESC>v	View the previous page
<ESC>u	Capitalize word
<ESC>l	Lowercase word

To edit your document, you have to know how to move the cursor through it. In addition to the mouse and arrow keys, several commands jump the cursor through the text. The Next Line command, ^N, moves the cursor down one line. Its inverse, the Previous Line command, is ^P. Similarly, you can move right, or Forward one character, with ^F, and left, or Backward one character, with ^B. As with most text editors, if any of these commands would take you into text that is not currently on the screen, MEMACS will scroll to the appropriate window of text. You can also tell MEMACS to show you the next page of text at any time by typing ^V, the View Next Page command.

Here are a few examples of the related CTRL and meta uses of a character. (They do not count towards the ten basic commands, because they are so easy to remember.) Because ^F and ^B move the cursor forward and backward a character at a time, it's fairly natural that <ESC>f moves Forward one word and <ESC>b Backward one word. While not quite as natural, <ESC>v lets you View the previous page.

You have a good start with movement, now you need a few commands to manipulate the text. The simplest such command is ^D, with which you can Delete the character under the cursor. (<ESC>d lets you Delete a word.) Some MEMACS deletion commands also help you move sections of text. Several of the commands that delete groups of characters store them in a temporary holding area known as a kill buffer. When you perform a sequence of these commands, MEMACS appends the newly deleted text to the end of the text already in the kill buffer.

For example, with ^K you can Kill to the end of the line in which the cursor is currently sitting. When you first press ^K it deletes the text from the cursor to the end of the line. Type ^K again, and you delete the carriage return at the end of the line. To remove a line completely, position the cursor at its start and press ^K twice. By issuing ^K commands repeatedly you can kill a large region of text.

To move the text that is now in the kill buffer to a new location, just move the cursor to the location you want, and type ^Y to Yank the contents of the kill buffer into your file. You can yank the kill buffer several times if, for example, you want to insert multiple copies of its text into your file. Do not use any other kill commands, however, until you have made all the copies you want of the current kill buffer. Once you yank the kill buffer, MEMACS will empty and rewrite it the next time you use ^K, or a similar command. Kill and yank are similar to the cut and paste operations of many commercial programs.

Eight commands down, two commands to go. You know how to move in the document and manipulate the text; now, you need a way to save your changes and exit from MEMACS. These commands are double combinations beginning with ^X. (Such two-character sequences are necessary because there are not enough single-character CTRL and meta combinations for all of the MEMACS commands.) To Save your file, type ^X^S. When MEMACS has finished saving your work, the mode line will tell you how many lines of text the program wrote to the file. The ►

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NEED TO SWAP data among text files? Thanks to MEMACS' powerful window and buffer commands, you can edit multiple documents simultaneously.

In MEMACS, windows are on-screen areas that are the full width of the display and one or more lines tall. The window you are editing in is the current window. Each window displays a buffer that contains the text file you are editing. Every buffer has a name, usually the first 15 letters of the name of the file in it. The first buffer you open is always called "main." Because you can open multiple windows, you can have multiple buffers (documents) on the screen. The tricky part is the way windows and buffers interact. MEMACS does not enforce a one-to-one relationship between them. You can edit the same buffer simultaneously in multiple windows or have buffers in memory that are not displayed in a window.

Several MEMACS commands let you manipulate windows and buffers. With the Split-window command (^X2) you can split the current window in two, down to a minimum size of one or two lines. (Try to split a one- or two-line window and you will get an error message.) When you split a window in half, both of the resulting windows initially contain the same buffer as the original. You can load a new buffer into the current window with the Visit-file command (^X^V), which reads a file. The original buffer will remain on display in the other window. When you replace a window's contents with a new buffer, the old buffer stays in memory, even if you are not displaying it in a window. To see the buffers currently in memory, use List-buffers (^X^B). A window displaying a list of the buffers, their sizes, and the names of the files they contain will open. To rid the screen of the list, use the One-window command (^X1) to make your current window (which is never the buffer list) expand to fill the display. You can bring any buffer into the current window with Select-buffer (^Xb), which requests that buffer's name.

To make all this more concrete, try editing two files at once. Load MEMACS and a copy of your Shell-Startup, then split the screen into two windows with ^X2. Both windows will contain the buffer named Shell-Startup; the top window is your current window. To load a new buffer into that window, use ^X^V. When the program prompts you for a file name, enter Startup-Sequence and press RETURN. The window will then display your startup sequence in a buffer named Startup-Sequence. You can move between the windows with ^Xn (Next-window) and ^Xp (Prev-window) or the kill and yank commands to move text between the buffers in these windows or many more. □ *—BC and MVN*

Save File command assumes that you gave MEMACS a file name parameter when you started it. If you omitted that file name or you ran MEMACS by double clicking its icon, then the command will fail because it does not have a file in which to save your editing. The alternative is to use the Save As File command, ^X^W, which will prompt you for a file name and then Write your work to that file. To exit MEMACS entirely, type ^X^C. To make it mnemonic, think of exiting as saying "Ciao!" to MEMACS. (You can also exit with the CLI's standard command for ending routines, ^C.)

Bonus Package

The above ten commands (and friends) will make you productive with MEMACS, but a few others simplify the process. For example, while you can delete large blocks of text by using ^K repeatedly, MEMACS offers an easier way. Move the cursor to the beginning of the area you want to delete, and set a mark by pressing CTRL-SHIFT-2 (called ^@). Then go to the end of the area and type ^W to Wipe that region of text between the mark and the cursor. The entire block of text is stored in the kill buffer.

Often being able to search for specific text in a file is helpful. MEMACS provides a pair of simple search commands. The main one, Search (^S), prompts you for a string and then looks forward from the cursor's current location until it finds that string. You can type ^S again to find the next occurrence of the string, because MEMACS uses the previous string as its default the next time you search. The complementary command, Reverse search (^R), hunts backward from the cursor's current location.

While these are the only commands you need to get started, MEMACS offers plenty more, such as a set that let you edit multiple files at once and move text between those files. There are also commands for everything from complex functions such as defining keyboard macros, to simple things like making a word or block Uppercase (<ESC>u) or Lowercase (<ESC>l).

Start out with the simple commands. When you are comfortable with them, explore the MEMACS menus and documentation. The program will reward you with a wealth of powerful controls. You may even find the command to swap characters, Transpose Character (^T), to be as essential as we do. ■

Bill Catchings and Mark L. Van Name are contributing editors to AmigaWorld. *They explore AmigaDOS and related subjects each month in info.phile. Write to them at 10024 Sycamore Rd., Durham, NC 27703.*



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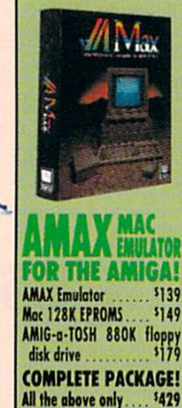
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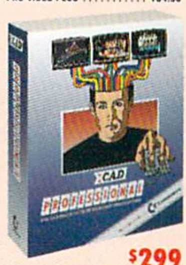
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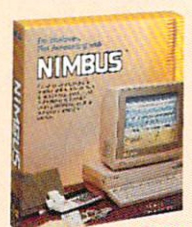
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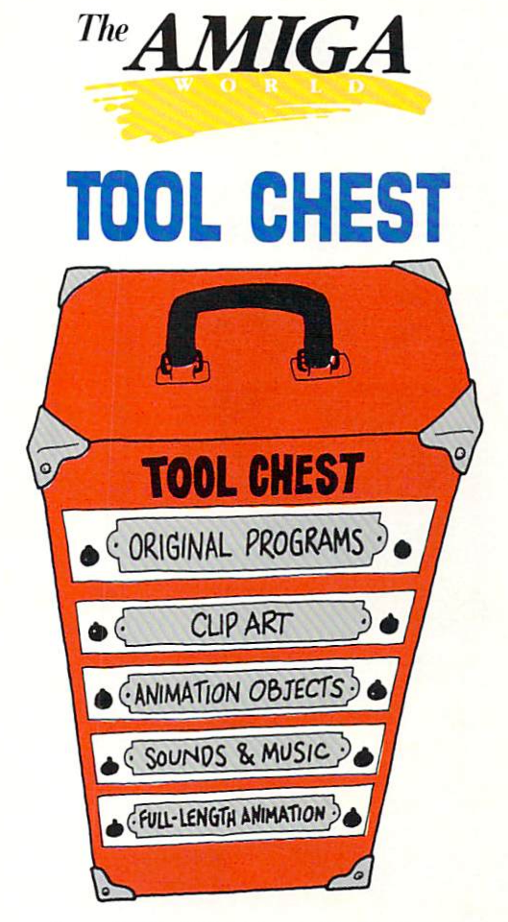
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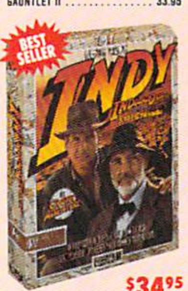
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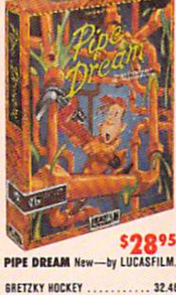
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Forced Palettes

12

◆

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

◆

By Joel Hagen

LIKE PHOTOGRAPHERS IN the darkroom doing their own developing, Amiga artists still have many creative options with an already finished image. In fact, one of the distinct strengths of computer art is that you need never "complete" an image in any final sense of the word. You can always load that image into the computer and use it as a launching point from which to develop a radically different picture. One of the simplest yet most rewarding directions the artist can explore is to force the palette to a new set of colors while retaining the structure of the image.

It is easy to take a painted or digitized image and randomly alter the palette to create a rainbow version of the original. This can be beautiful, but the technique is trivial and too familiar. A controlled palette change, however, can yield fascinating images. Many Amiga programs have good tools for forcing these changes. Among my favorites are DeluxePaint (Electronic Arts), PIXmate (Progressive Peripherals & Software), and Digi-View's (NewTek) digitizing software.

TOUR DE FORCE

I have disks of palettes that I use in my artwork. Some of these are digitized palettes where I have let the camera capture the subtle, neutral colors of bones, leaves and shells. Many palettes are my own creations, designed for specific characteristics. I save them all as pictures composed of representative color combinations.

To experiment with forced colors in DPaint, load a palette from your palette disk as a picture. Now load the image you want to modify. Under the Picture menu, go to Change Color then Restore Palette. The previous palette is instantly restored, usually rendering the displayed image unintelligible. Now, under the same Change Color directory, select Remap. After some calculation, the picture will jump back into recognizable form, but with altered colors. The software has searched for the most logical matches to the original colors and reconstructed the image accordingly. The Match Palette feature of PIXmate performs the same operation.

It is challenging to create a palette of "earthy" colors for portraits or landscapes. To learn about the nature of these colors, make such a painting with a quickly constructed 32-color palette. Is the Picture predominantly browns and yellows, or is it greens and blues? Search for a photograph, a piece of patterned fabric, or a handful of objects to digitize for relevant replacement colors. For example, if you painted a face, digitize a magazine photograph of a face. Now force the digitized palette to your image using the Remap technique. The results of the color substitutions in your painting will give you valuable insights for future work. For instance, flesh tones are elusive to create. This exercise will demonstrate that the best flesh effect is often the result of many colors in shadows and highlights that by themselves do not appear to be skin colors at all. The same is true of the "color" of copper or silver. Many colors work together to give the look of metal.

Usually, you will have constructed your painting palette with colors grouped in sequences: several browns, several blues, a yellow-to-red Spread, and so on. By contrast, digitized palettes are sorted by value. Once you have forced your painting to use a digitized palette, however, you can reorder the color groups in DPaint with a series of Exchanges and Remaps, or you could use PIXmate's Swap feature. Deluxe PhotoLab's (Electronic Arts) "Colors"

Even after you create your "finished" image, there is still a world of fascinating graphics possibilities with which you can experiment—if you know the right techniques.

program can automatically sort the palette for you by any of several criteria, including by Hue. Once regrouped, these color sequences can be defined as Ranges in DPaint to respond to the powerful Shade and Blend tools should you wish to continue the painting.

Digital Reverse

We can put a different spin on this concept—with equally interesting results. Instead of forcing a painted image to use a digitized palette in seeking more natural colors, let's go in the opposite direction: Force the digitizer to use a constructed palette. Build an ordered palette like the one in the illustration accompanying this column. Making use of DPaint's Spread feature, I created these groups with an eye towards obtaining rich colors, slightly neutralized. I wanted to include a broad spectrum of color, but to concentrate on browns and a salmon/purple/blue sequence. I threw in a gray scale to provide a full range of values for dithering. To neutralize colors as you build a palette, remember that the R, G, and B values for grays are always equal. You can neutralize any color you create by moving its R, G, and B sliders gradually toward each other, as though letting them settle toward a gray midpoint.

In Digi-View, use the software's Load Palette option to load this palette. In the menu, bring up the palette and click on Freeze Palette. Now digitize normally in the 32-color mode, which will force the image to your created palette. The dithering of colors by the digitizer softens the garish look you might have expected. It is amazing how well a single palette can render a wide variety of subjects from faces to forests. As an artistic effect, this yields excellent results.

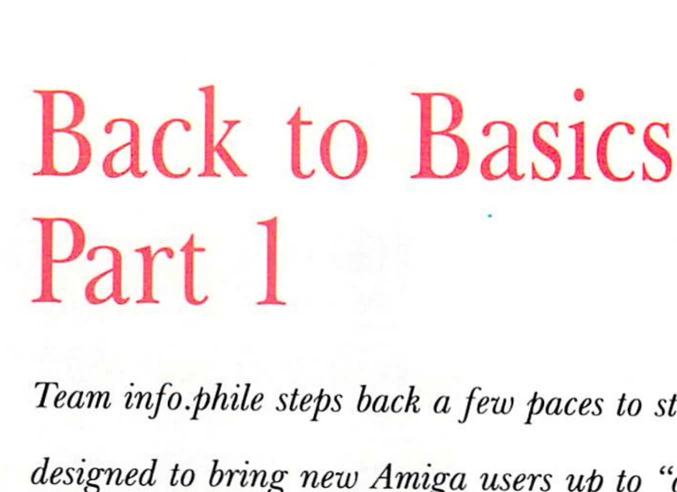
In a practical vein, you can force a digitized image to use a palette specifically created for considerations such as titles, borders, and display graphics. Thus, you can work any image into a presentation, using precisely the palette designed for the display. If you need to group several images onto a single screen, or merge them with another screen, this is a highly effective way to establish and maintain a uniform palette. (The graphics described in "And For Best 'Direction' The Winner Is...," p. 25, were created using this technique.)



This image shows how Digi-View's Freeze Palette option is used to force a digitized illustration to a predesigned display palette. The Sharpness filter was used to enhance detail and color.

The Digi-View technique is also good for Remapping a picture to a new palette, as described earlier with DPaint and PIXmate. With Freeze Palette, any picture loaded into Digi-View will Remap to the locked Palette. In fact, you can then make use of Digi-View's excellent image-processing features to do a little "darkroom" post-production work. Changes in Brightness, Contrast, and Sharpness are very effective. The Dither option, combined with the Sharpness filter, can enhance or soften the detail of your images. It is fascinating and instructive to push the same image through a series of twenty or thirty stored palettes. Studying the effects while sorting and examining each palette may do more to embed the principles of color theory than would any single art course. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope.



Back to Basics Part 1

Team info.phile steps back a few paces to start a brief series designed to bring new Amiga users up to "operating" steam.

By Mark L. Van Name and Bill Catchings

AUTHORS' NOTE: One of the difficulties in presenting a regular column on AmigaDOS is that almost all users—novice through advanced—are involved with the Amiga's operating system. So at what level do you focus topics of interest? For over a year, we have concentrated on advanced CLI features. This is fine for experienced users, but it doesn't do you much good if you've just found your Amiga under the Christmas tree. To help less experienced users get started, for the next several columns we will concentrate on the basics of the Amiga's powerful Workbench and CLI. With due apology to more advanced users who follow this column, we *will* be picking you up again in the near future.

So, without further ado, we'll follow the prevailing currents in recent educational philosophy and get "back to basics!"

Backing Up Disks

The first thing you should do with your Workbench disk is make a backup copy of it. (In fact, that's the first thing you should do with any software you buy.) Then file the original in a safe place and use the copy as your working Workbench. Never use the original for anything other than making copies.

To backup your Workbench disk, you need to prepare that disk and a blank one. Every 3.5-inch disk has a little square slot in the upper right corner of its top side—the side where the label goes. On the rear of the slot there is a little black sliding tab known as the "write-protect" tab. When that tab covers the slot, the disk is "write-enabled": Your Amiga can change it. When the tab is in the upper position and you can see through the slot, the disk is "write-inhibited," or "write-protected": Your Amiga cannot change it. Protect your original Workbench disk so that nothing will hurt it, and make sure you can write on the blank.

For the rest of this column, we will assume that you have a standard Amiga with a single, internal disk drive. Boot your Amiga with your original Workbench disk in that drive.

When the Workbench screen appears, you will see a small disk icon labeled "Workbench1.3" in the upper-right corner of the screen. Move the mouse pointer to this Workbench icon and click the left mouse button once. The icon will turn white: You have "selected" it.

Now move the mouse pointer to the white menu bar that runs along the top of the screen. When the pointer is in that bar, hold down the right mouse button. Several menu titles will appear: Workbench, Disk, Special.

Still holding down the right mouse button, move the mouse pointer slowly over each of the words. As the pointer touches a word, the word will be highlighted in black and a list of options—menu choices—will drop down beneath that word. Select Duplicate from the Workbench menu.

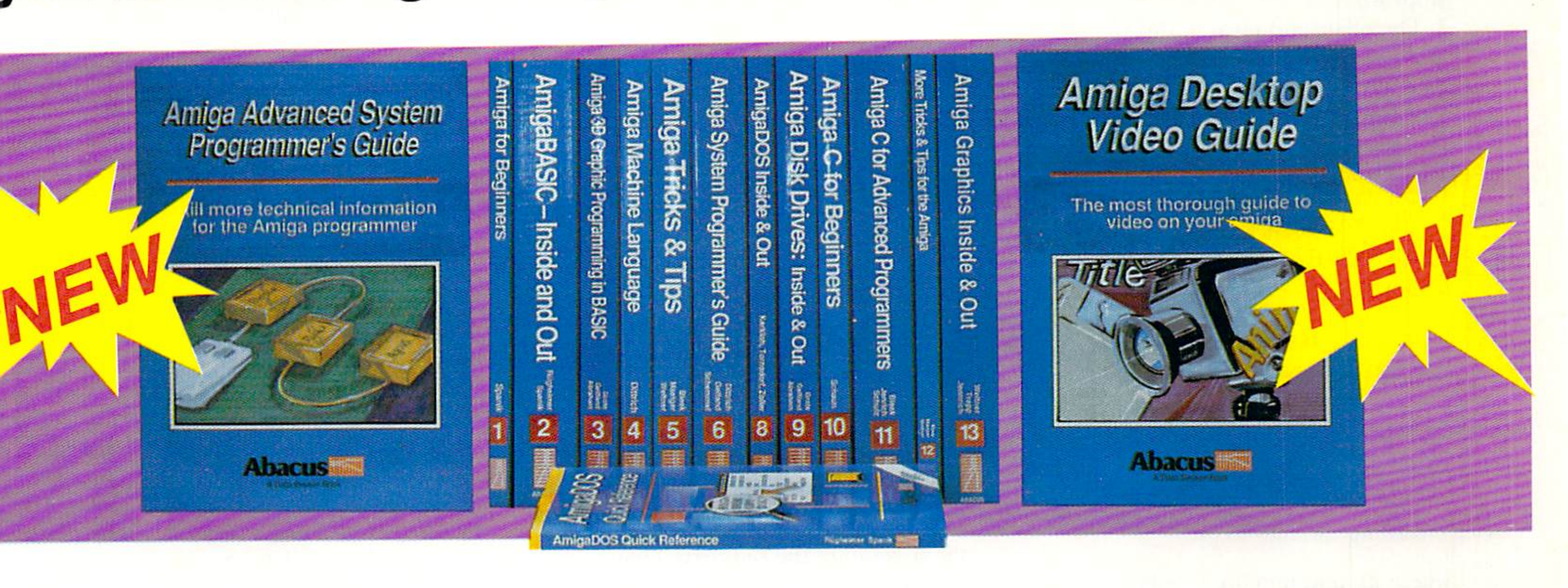
A box will appear in the upper left portion of the screen. It will ask you to

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two words, Continue and Cancel, which are the requester's "exit gadgets." To answer a requester, click the left mouse button on one of its exit gadgets. (Generally, these gadgets do the obvious thing: Continue keeps running the operation you are performing, while Cancel stops it.)

The other odd term in this requester—"drive DF0:"—is the Amiga's name for your internal disk drive (DF1: is the first external drive on an A500 or A1000, the second internal drive on an A2000 is DF1:, while its first external drive is DF2:). You have just booted your Amiga, so your Workbench disk is already in DF0:. Click the left mouse button on Continue.

The 3 R's: Reading, Writing, and Renaming

Your Amiga will now read a part of the Workbench disk into memory. While it's reading, the Amiga replaces the requester with a status message that looks like

reading nn, mm to go

where nn and mm are numbers between 0 and 79. (These numbers represent the 80 major areas, or cylinders, of an Amiga disk.)

After a few moments, this status message will disappear and in its place a new requester will ask you to

Put DESTINATION disk
(TO disk) in drive DF0:

Take out your Workbench disk and put in your blank disk. After you have made this swap, click on Continue, and the writing half of the process will begin. You will now see the message

writing nn, mm to go

The entire process will repeat a couple times. Each time you will have to put in your Workbench disk, let the Amiga read part of it, put in your blank disk, wait for the computer to write that part, and so on. These swaps are necessary because the Amiga's disk-copying command stores only part of the Workbench disk in memory each time.

By the way, never take a disk out of the drive until the red drive light is off. You can damage a disk by removing it while that light is on.

During the copying process, your blank disk will have its own icon, labeled "DF0:busy." When the copy is finally complete, the requesters will go away and the blank disk's icon will be assigned a new name, "copy of Workbench1.3." Store your original Workbench disk and reboot your Amiga with this copy. (To reboot, just hold down the Ctrl key while pressing the two A (Amiga) keys on either side of the space bar.)

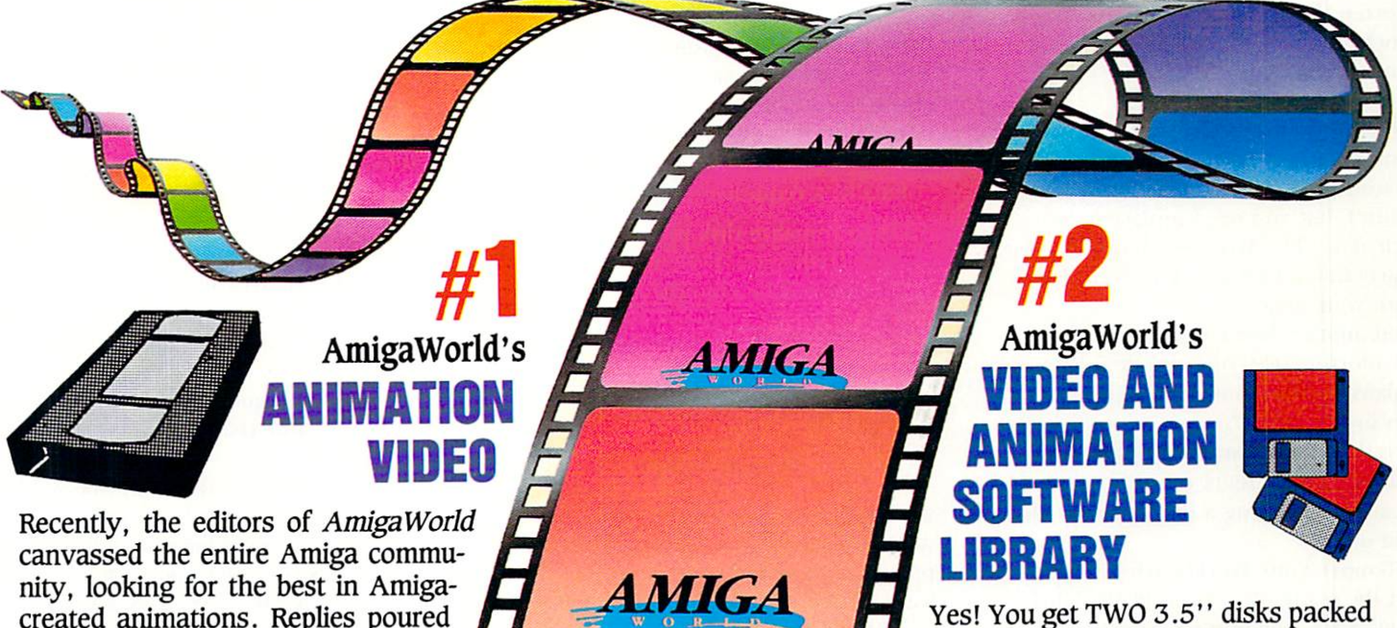
Before you stick a label on this disk (as you should with all your disks so you can easily tell their contents), we will complete the disk-copying lesson with one final detail—renaming disks. In this example "copy of Workbench1.3" is a long name for a disk that you will use every day, so let's change it. First, select that icon. Then choose the Rename option from the Workbench menu.

A long, thin box containing the disk's name will appear in the middle of the screen. You can now change the name by using your keyboard's editing keys. (Because this box lets you change text strings, it is known as a "string gadget.") ►



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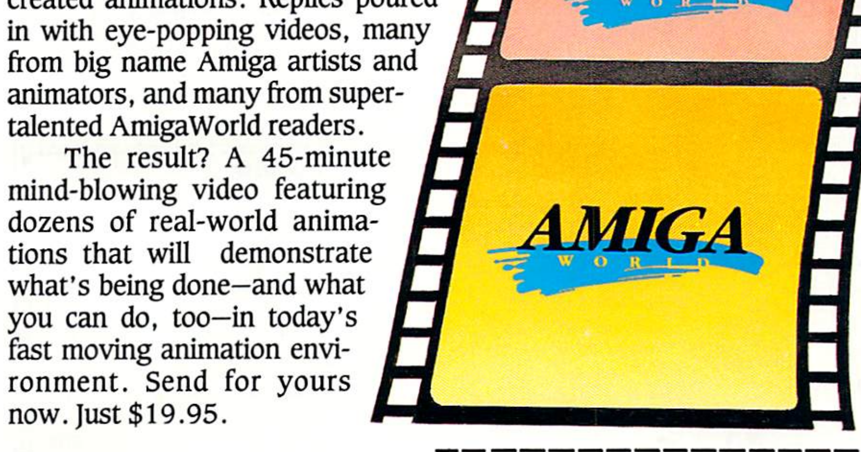
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You can move around with the left and right arrows, remove characters with the Backspace and Delete keys, and type in any letters or numbers you want. Shorten the disk's name to "Workbench1.3" (or give it an entirely new name if you wish).

FORMATTING DISKS

You're almost ready to start playing around with some of the Workbench's utilities, but you need a place to store their data. The Workbench disk itself is nearly full, and it is not a good idea to store your data on it anyway, so you need another blank disk.

Unfortunately, you cannot simply stick a blank disk in your Amiga and use it. You first have to "format" that disk. Be sure that you format only blank disks or disks whose contents you do not need, because formatting a disk destroys all the data on it.

Remove your Workbench disk and insert the blank. An icon with the label "DF0:BAD" will appear. Select that icon and then choose Initialize from the Disk menu. A requester will ask you to put your Workbench disk back in the drive. After you do, another requester will ask you to replace it with your blank disk, which it will call the "destination" disk. The disk-shuffle process will repeat once. (Tired of changing disks? Now you know why so many Amiga owners purchase either a hard disk or an external floppy-disk drive. We highly recommend you get one or the other.)

Finally, a requester will ask

Ok to Initialize disk in
drive DF0:
(all data will be erased)?

If the message displayed in the requester above had asked

Ok to Initialize volume
[name]
(all data will be erased)?

it would mean that this was not a blank, unformatted disk but a formatted one, possibly containing data you might not want to lose. ("Volume" is just a fancy word for disk.) This is your last chance to back out if you have accidentally inserted a disk whose data you need.

When you are ready, click on Continue. While the format runs, it will display messages that look like

Formatting cyl nn, mm to go
Verifying cyl nn, mm to go

Here nn and mm are the same cylinder numbers we saw during the disk duplication process.

When the format is complete, the message

Initializing disk

will appear briefly; when the initializing is finished you're ready to go. The disk's icon will now have the name "Empty," which is not very descriptive. Use the renaming technique we discussed earlier to give it a name that says what you plan to do with it.

Next time we'll talk about how the Workbench views data files and how you can get them onto your newly formatted disks. Until then, enjoy your new Amiga! ■

Mark L. Van Name and Bill Catchings are contributing editors to AmigaWorld. *Write to them at 10024 Sycamore Dr., Durham, NC 27703.*

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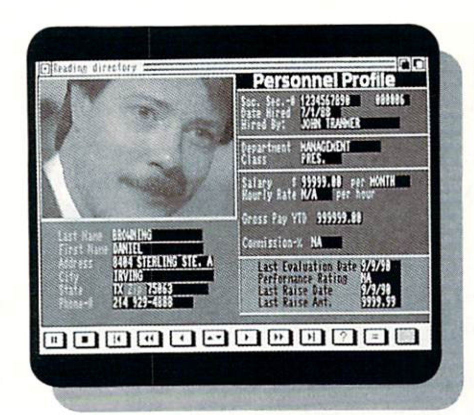
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Structure Offsets for Amiga Basic

By Bryan D. Catley

WHILE AMIGA BASIC is a powerful implementation of the BASIC language, it does not provide direct access to many ROM Kernel structures. Equipped with the WINDOW(7) and WINDOW(8) functions, the PEEK, PEEKW, PEEKL, POKE, POKEW, and POKEL commands, a few operating system calls, and some structure offsets, however, you can mine some useful and powerful routines.

Rather than filling you with a lot of theory that has little practical use, I'll show you how to accomplish things that you might have thought were impossible with Amiga Basic. (For a thorough discussion of these techniques and all available structures, see *The Amiga ROM Kernel Reference Manual: Libraries and Devices*, available for $34.95 from Addison Wesley, Reading, MA 01867, 617/944-3700.)

The WINDOW(7) and WINDOW(8) functions are the basic maps for this excavation as they provide the two starting points necessary to access the various structures. WINDOW(7) provides the address of (or pointer to) the current window structure, and WINDOW(8) provides the address of the current window's rastport structure, which defines the general parameters of a display. Of the tools, PEEK and POKE each access a single byte. PEEKW and POKEW access a word (or two bytes) apiece, while PEEKL and POKEL both access a long word (or four bytes).

Retrieving a Palette's Current Value

Amiga Basic's PALETTE command lets you set a color register to any value. The catch is that Amiga Basic provides no straightforward method for you to find out the current palette color. The following subprogram avoids this restriction by returning the red, green, and blue values for the specified palette. Note that while Amiga Basic uses values from 0 to 1, the operating system uses values from 0 to 15, which is why I divide by 16.

```
SUB GetRGB (pal%, r, g, b) STATIC
' get ViewPortAddress for current window
vpa& = ViewPortAddress&(WINDOW(7))
' get pointer to color table
colorTbl& = PEEKL(PEEKL(vpa& + 4) + 4)
' calculate basic palette values
r = PEEK(colorTbl& + 2 * pal%) / 16
bluegreen = PEEK(colorTbl& + 2 * pal% + 1)
g = (bluegreen \ 16) / 16
b = (bluegreen MOD 16) / 16
END SUB
```

The following code fragment demonstrates a use for the subprogram:

```
LIBRARY "intuition.library"
DECLARE FUNCTION ViewPortAddress&( )
LIBRARY
FOR p% = 0 TO WINDOW(6)
  CALL GetRGB(p%, red, green, blue)
  PRINT "Palette = ";p%;red;green;blue
NEXT
LIBRARY CLOSE
END
```

Tracking the Mouse

Instead of using the mouse functions, you can track mouse movement by using the contents of the window structure. Because you use PEEK to get the values directly, this is faster than the conventional method. The following example implements the technique in a simple drawing program: Move the mouse to draw, press a key to quit, and that's it.

```
PRINT"Press any key to quit!"
' continue until key is pressed
WHILE INKEY$ = " "
  ' get y-mouse coordinate
  yMouse% = PEEKW(WINDOW(7) + 12) - 11
  ' get x-mouse coordinate
  xMouse% = PEEKW(WINDOW(7) + 14) - 4
  ' fill in pixel
  PSET (xMouse%, yMouse%)
WEND
END
```

Note the necessary adjustment for the window title bar and border. If you did not include these, the drawing point would be offset from the mouse pointer by similar values.

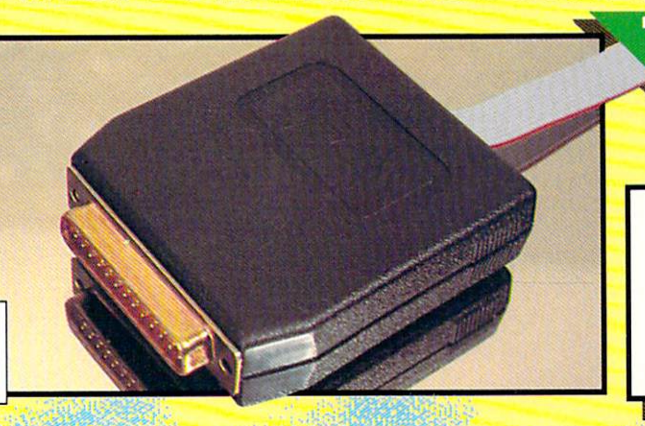
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bench screen instead of the usual four-color display. The following program sets up the screen. The only way to revert to a normal Workbench is to reboot the computer.

```
LIBRARY "intuition.library"
LIBRARY "graphics.library"
' get pointer to bitmap structure
maps& = PEEKL(WINDOW(8) + 4)
' get current number of bit planes
numPlanes% = PEEK(maps& + 5)
' get pointer to screen structure
scrnStruct& = PEEKL(WINDOW(7) + 46)
' get screen's width and height
sWd% = PEEKW(scrnStruct& + 12)
sHt% = PEEKW(scrnStruct& + 14)
' set new number of bitplanes
POKE maps& + 5, 1
' get rid of additional bitplanes
FOR n% = numPlanes% TO 2 STEP -1
planePtr& = PEEKL(maps& + 4 + 4 * n%)
CALL FreeRaster(planePtr&, sWd%, sHt%)
CALL RemakeDisplay
CALL RefreshWindowFrame(WINDOW(7))
CLS
NEXT
LIBRARY CLOSE
SYSTEM
```

A Borderless Screen

While Amiga Basic provides no direct method for turning a window's border off, you can do so by modifying the appropriate structures and redrawing the window frame. The following routine turns the current window's border off. Although the border is removed, you still do not have access to that area of the screen.

```
SUB RemoveBorder STATIC
' get pointer to window modes
winModes& = Window(7) + 24
' get mode
mode& = PEEKL(winModes&)
' set no border mode
mode& = mode& AND (2 ^ 26 - 1 - 1024)
mode& = mode& OR 2048
POKEL winModes&, mode&
' redraw window frame (deleting border)
CALL RefreshWindowFrame(WINDOW(7))
END SUB
```

You could invoke this subprogram as shown:

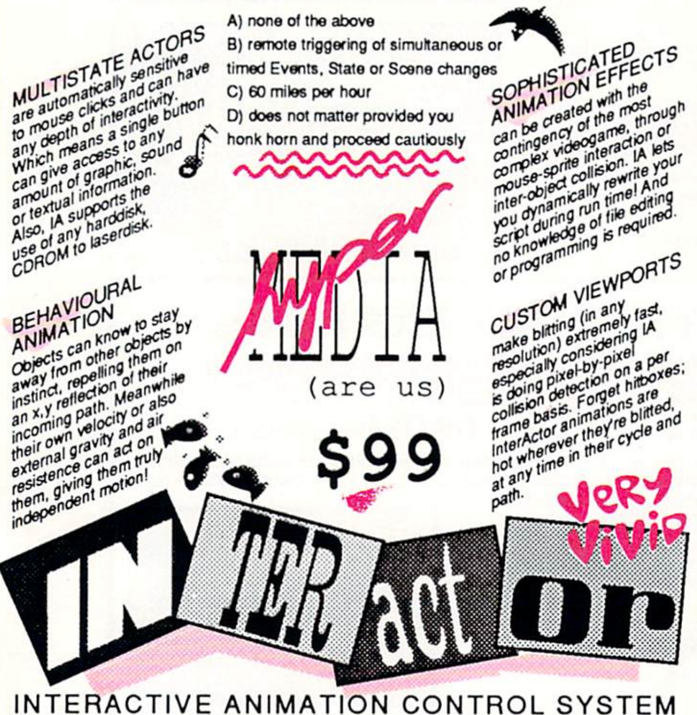
```
LIBRARY "intuition.library"
CALL RemoveBorder
LIBRARY CLOSE
END
```

Changing a Window's Border Color

If you want to keep the window border but change its color, use the code below. (Space required the SUB statement to print on two lines; enter it on one.)

```
SUB ChangeBorderColor(newDetail%, new-
Block%) STATIC
' get pointers to current pens
detailPen& = WINDOW(7) + 98
blockPen& = WINDOW(7) + 99
' set new pens as requested
POKE detailPen&, newDetail%
POKE blockPen&, newBlock%
' draw window frame in new colors
CALL RefreshWindowFrame(WINDOW(7))
END SUB
```

►



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You can test the routine with this program fragment:

```
LIBRARY "intuition.library"
FOR block%=0 TO 3
  FOR detail%=0 TO 3
    ChangeBorderColor detail%, block%
    FOR n=1 TO 1000: NEXT
  NEXT
NEXT
ChangeBorderColor 0, 1
LIBRARY CLOSE
END
```

Limiting a Window's Size

With POKEW you can restrict the maximum dimensions to which the current window may be resized. (Offset 8 contains the window's current width and offset 10 contains the current height. Use PEEKW to access these values.) To set size limits follow the steps below, but bear in mind: The window's minimum size *must* be smaller than its maximum, and the maximum size *must* be greater than the current measurements.

```
winStruct&=WINDOW(7)
POKEW winStruct&+16, newMinimumX%
POKEW winStruct&+18, newMinimumY%
POKEW winStruct&+20, newMaximumX%
POKEW winStruct&+22, newMaximumY%
```

Bigger and Bolder

When you select a program's bold text option, the system prints the characters twice; once at the specified location, and once one pixel to the right of that location. You can create even bolder text by increasing the offset. For example:

```
' get pointer to current font structure
currentFont&=PEEKL(WINDOW(8)+52)
' turn bold on
POKE WINDOW(8)+56, 2
' set new "bold" offset of 4
POKEW currentFont&+28, 4
PRINT "How does this look?"
' return to normal
POKE WINDOW(8)+56, 0
```

Remember, PRINT prints one character at a time, meaning that styles such as bold, italics, and so on will have part of each character truncated, so you cannot see the full effect. As an alternative, the "text" drawing function constructs a graphic image of the given character string and then draws it on the screen at the appropriate location.

More to be Found

We have only scratched the surface of available options. You can also use Intuition's own gadgets, set up sub-menus, and more. To use these options you typically allocate memory, build your structures from scratch (with POKE, POKEW, and POKEL), then attach them to either the window or rastport structures. As you have seen, however, you must use offsets rather than value names. Get ready to do some calculations. ■

Brian D. Catley is a professional software engineer with 20 years experience working with IBM mainframes and a little less with Amigas. Write to him c/o AmigaWorld *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

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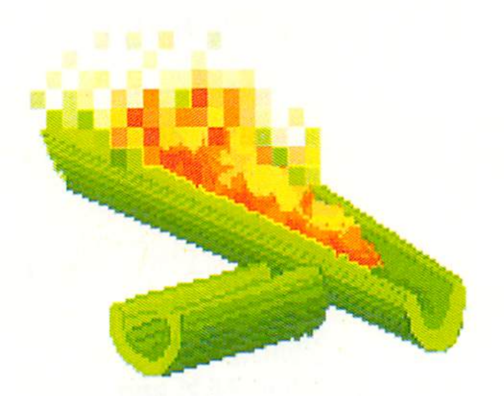
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No matter how long you have been enjoying the Amiga buffet, there are bound to be a few things you've learned (either the hard way, by chance, or from a friend) that others might not know. Is there a way to cheat at Bongo Blaster? Have you discovered a cheap source of diskette boxes? A way to fix screen flicker? A short BASIC program that calculates dates? A unique use for a digitizer? A way to insure good video signals? A snappy startup-sequence? A clever batch file? A way to make money with your Amiga? Or anything that might be useful to another Amiga owner and would fit in a few paragraphs?

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So put on your creative beanies, sharpen your crayons, ponder the implications of overnight (or a month or two, anyway) success, then get jotting. Mail your ideas to:

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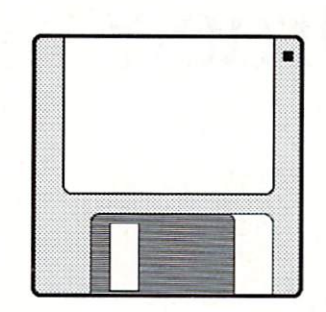


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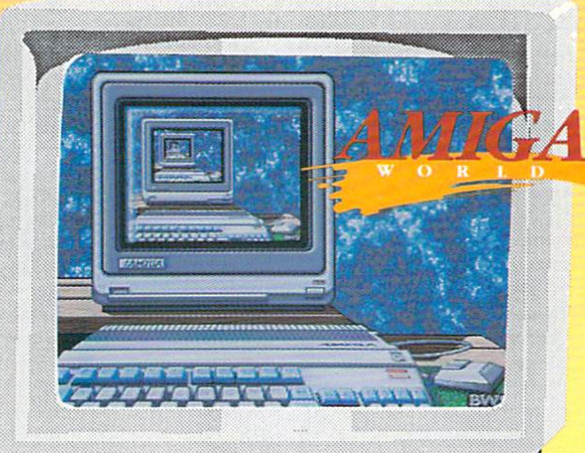
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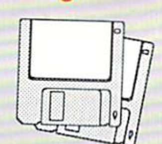
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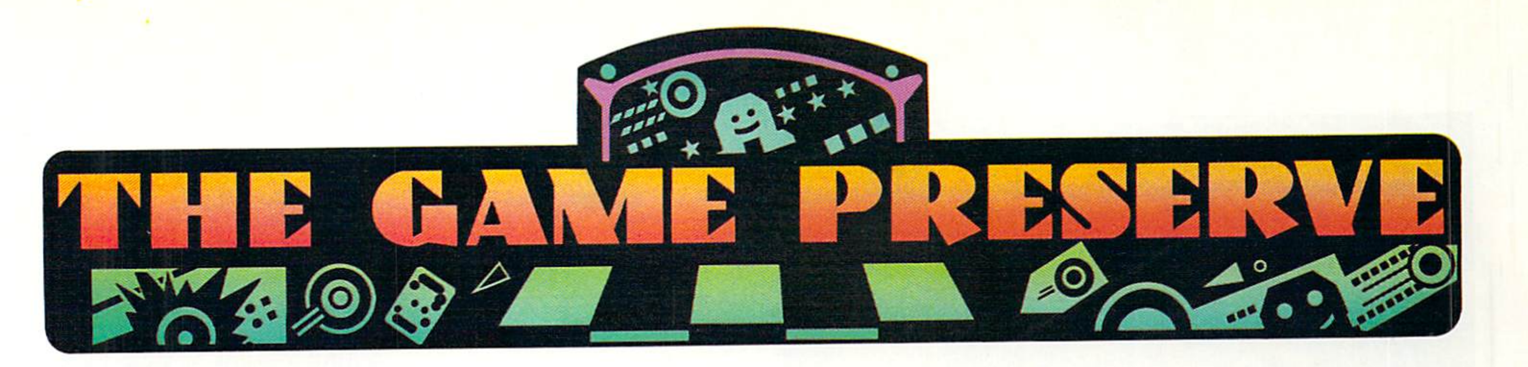
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SHADOW OF THE BEAST

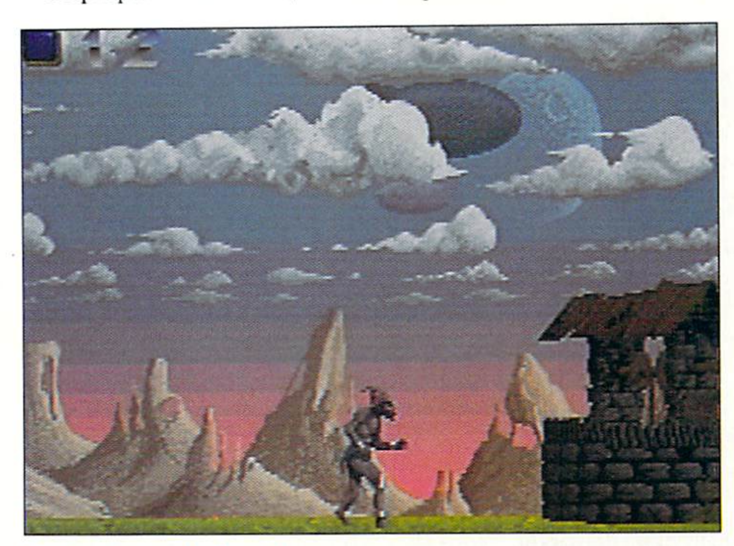
By Louis R. Wallace

THE MULTI-LAYERED, smooth-scrolling graphics of Shadow of the Beast drew me (and half of last summer's CES crowd) to it. You must punch and kick your way through a multiple-level world full of arcade nasties (132 varieties) as you search for the items you need to mount the final attack on the meanest monster of them all.

The graphics in Beast are first rate. At times there are thirteen different screen layers scrolling, which give it an excellent three-dimensional effect. Your enemies are very impressive and many are extensively animated. The documentation states they can be up to 220 × 150 pixels in size, but you'll be too busy killing them to measure. The background music is equally excellent. The six distinct scores use high-quality digitized instruments.

A game needs more than an impressive display to hold your attention. Beast wins in this area as well. It has that just-one-more-time appeal. You really do want to beat each level to see what the next has to offer.

Be prepared for a wait, though. The game takes a couple minutes to get started. To make matters worse, every time your character dies, you sit out another long disk load (almost two minutes) just to replay. No matter how much extra RAM you have, the game doesn't use it. Beast will not run in 68020 mode or recognize a second disk drive, either. You'll need to swap disks.



Punch and jump to stay alive.

Complaints aside, I have to recommend the game. It is fun, and the graphics make it an excellent Amiga showpiece. *($49.95, Psygnosis Ltd., distributed by Computer Software Services, 2150 Executive Dr., Addison, IL 60101, 800/669-4912. Joystick required.)*

TARGHAN

By Peter Olafson

AN ARCADE-ADVENTURE, Targhan features a standard loincloth-clad barbarian with a big sword, surfer tan and muscles, and digitized war cries, walking across your Amiga screen to dance on the head of another Evil One. The game, however, boasts a degree of panache, even strategy. (If you consider picking up things in one place and using them in another strategy.)

The game looks great. A sprite one third of the screen's

Crib Notes

By Peter Olafson

THIS COLUMN IS for the adventurer stuck in a dead-end corridor with the food gone, the last torch dying, two companions history, and the titter of danger around the corner; for the shoot-'em-up artistes who have come up against the last monster on the last level and suddenly feel they are playing with their elbows; and for the novice fighter pilot who is better at falling like a stone than flying with the eagles. A game is no fun if you can't finish it, or if you finish it too easily because somebody told you what to do. I am here to nudge you, ever so gently, in the right direction.

Feel free to cry for help or send me reinforcements. If you are in a jam in a game or have a particularly useful hint, write to me care of the magazine (80 Elm St., Peterborough, NH 03458), or contact me on PeopleLink (PETEROO) or GEnie (P.OLAFSON).

Until the letters start rolling in, I'll share my ingenious escapes from some of the tight spots I've been in. (I'm still working on getting out of plenty more. As I said, send hints!)

• In *Bard's Tale II* (Electronic Arts, $59.95), you'll find a dungeon under every rock. In the original *Bard's Tale* (EA, $49.95), you don't find out about one dungeon until you're at the bottom of the one before it. If you're having trouble finding the first one, check out the taverns. One's a little different from the others.

• The enemy carrier in *Carrier Command* (Medalist Int'l., $44.95) is a clever and powerful adversary. You can dispatch it by depriving it of its resources (an arduous and difficult procedure) or by blowing it out of the ►



The scenery is pretty, but watch out for the natives.

height, Targhan makes his trip in front of full-fledged paintings. Atmosphere is even supplied: Birds twitter and squirrels climb trees. Deer romp in the woods. Girls in scanty outfits shoot arrows at you. The pleasant sense of life unrelated to your quest going on around you makes the scenario seem more real and, by contrast, makes the less pastoral scenes that follow feel more sinister.

Foolish indeed is the barbarian who swings first and asks questions later. Don't kill everything in sight. The aggressive creatures will betray their intentions, and some creatures come to your aid. When you are in the pitch-dark caverns, you will be sorry you sliced up the golden fairy on the surface.

All in the game is not bliss and helpfulness, mind you. The pace can crawl—particularly when Targhan jumps, approaches the side of the screen, or runs up against one too many enemies. Don't look for inspiration in the manual; it consists of a badly-written seven-page story and two pages of instructions that leave out any but the most oblique reference to saving a game. You do so by kneeling in front of a statue. With a lot of luck you could discover this while playing the game. Which is the main quest anyway? *($39.95, Gainstar, distributed by DigiTek, 8910 N. Dale Mabry, Suite 37, Tampa, FL 33614, 813/933-8023. No special requirements.)*

Swords of Twilight

By Michael Totoro

BEING A HERO was a lonely job, weeks of slaying evil and liberating good, without the help of a companion. Now, Swords of Twilight allows you and two friends (human or computer) to simultaneously experience a sword-and-sorcery role-playing adventure.

Go adventuring with two other players.

The object of the game is to recover the Sword of Shambala, but *not* to plunder the country while doing it. Indiscriminant destruction will prevent you from unraveling clues, performing favors, receiving gifts, and accomplishing the quest.

To allow multi-player participation, the screen is divided into five windows. Three of the corner character windows are operated by joystick or keyboard commands for eating, sleeping, talking, casting spells, and so on. After you issue a command, you watch it being carried out in the center action window. In the fourth

water (much more direct and fun).

Consider the central island of Terminus as an example. Once you've taken the island, ambush the carrier. Head northwest. When you're just out of range, stop and wait. Arm all four Mantas with a full load of seven missiles apiece, and program them to fly at different altitudes to a spot off the northeast corner of Terminus. Before long a message will come in that the island is under attack. Launch your Mantas. Head east at top speed. With any luck, you will catch the carrier vulnerable with its own Mantas over the island. Fire as many missiles as possible as quickly as possible, and don't hesitate to act rashly if given the opportunity. The carrier is as fast as your Mantas, and if it gets the chance to make a break, it will.

• The crowning puzzle in *Space Quest III* (Sierra On-Line, $59.95) isn't rescuing the authors at the end, but getting out of the robot garbage scow at the start. You're looking at part of the solution, however, the moment you step out of your ship, but don't get a hernia. You need a hand (sort of). To get the hand, you'll have to place yourself in danger. Don't waste time with the pod; despite that most interesting hole, it's a red herring.

You can't just hop in the spaceship beside it, either, and can't climb on top without help. If you've been thorough in your search—aw, chute—you've probably used what you need and figured it was part of the scenery. Now, the scow does have some denizens who will not think kindly of you for making off with their property. Persistence pays off.

• There's a perfectly good way to get the One Ring to Mount Doom in *War In Middle Earth* (Melborne House, $49.99) without having to go through 25.2 million orcs. Think of what Frodo and Sam did in the trilogy. Hit them where they ain't. (The orcs, that is, not Frodo and Sam.)

• You won't find a great deal at the beginning of the graphic-adventure version of *Indiana Jones and the Last Crusade* (Lucasfilm, $49.95), but what's there is important. One vital ►



BOMB BLAST SUIT
Shields you from explosions.



FLASHLIGHT
Illuminates underground passages.



MINES
Set them in key locations. Up to three per screen.



INGRAM MAC-II
Semi-automatic submachine gun. Silencer optional.

GEAR UP.



BERETTA M92F
Single action hand gun. Silencer optional.





BODY ARMOR
Will reduce damage by 50%.



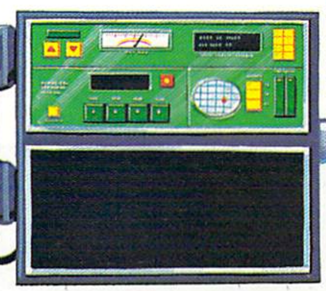
ROCKET LAUNCHER
Destroy enemy equipment from a safe distance.



ANTIDOTE
Neutralizes poisons.



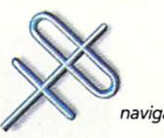
GAS MASK
Only means of survival in gassed out areas.



TRANSCEIVER
This is your most valuable piece of equipment. With it, you'll receive vital information from headquarters telling you where to find essential weapons and supplies.



REMOTE CONTROL MISSILE
Guide it with your control pad.



ANTENNA
Allows you to use transceiver despite enemy jamming devices.



COMPASS
Helps you navigate through uncharted deserts.

OXYGEN TANK
Keeps you breathing underwater.

INFRARED GOGGLES
Used to detect infrared alarm sensors.



MINE DETECTOR
Discovers location of enemy mines.

IRON GLOVE
Allows you to locate hidden doors with a single punch.



PLASTIC EXPLOSIVES
For perfectly timed explosions.



BINOCULARS
Allow you to see one screen ahead without risking your life.



GRENADE LAUNCHER
Launch deadly grenades into strategic locations.



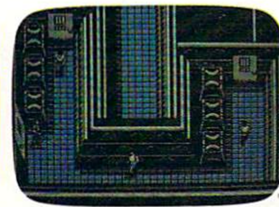
In this intense maze game, your mission is to destroy the ultimate weapon: METAL GEAR. You'll accomplish it by winding your way through five enemy strongholds, seeking vital information from hostages and searching for essential weapons and equipment, while occasionally tripping hidden alarms.

If you hope to survive, rely heavily on your transceiver, your map and your wits. And a word to the wise: don't believe everything you hear.





Screen shown: IBM®



Screen shown: Amiga®



Screen shown: Commodore®



Screen shown: IBM®

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Circle 25 on Reader Service card.

character window, you respond to encounters.

While this is the most advanced multi-player adventure game I've tried, it isn't perfect. You cannot create your character; you must choose from premade characters with different skill levels and personalities. When you meet someone in your travels, the program accesses the disk and the new arrival appears in the center of the action window. When finished, he vanishes with another grind of the disk. This method steals away from the effect that you are part of a world—as does the unchanging map. The adventurers must travel to different worlds to complete the quest, but the map looks the same, making walking tedious.

Swords of Twilight's strength lies in its multi-person play, letting a group simultaneously share in the fun. Unfortunately, too many sacrifices were made for this game to be enjoyable to more than young audiences. Too bad such a wonderful concept is buried under flawed execution. I await the next try. *($44.95, Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171. No special requirements.)*

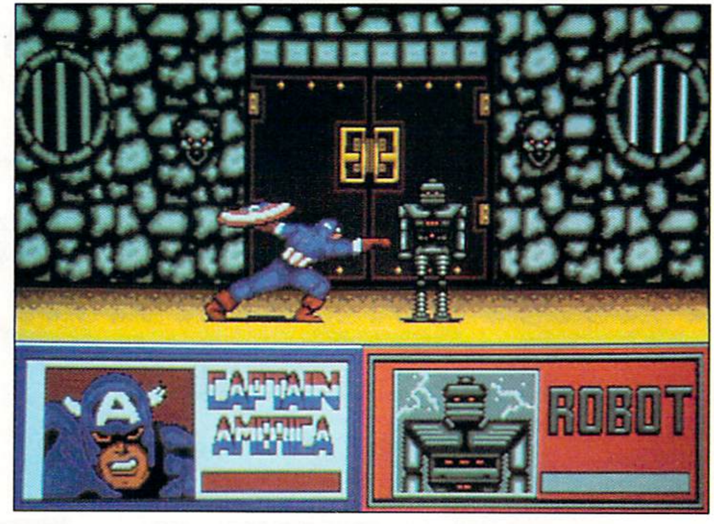
Dr. Doom's Revenge

By Dodson Yaple

THE SHELVES ARE teeming with games based on characters from films, TV, and comics. Some are dreary knockoffs that merely graft our heroes onto generic, easily portable games. Fans of Marvel Comics will be relieved to learn that Dr. Doom's Revenge is one of the more respectable entries in the genre.

You pick up the story at the end of a real Marvel comic that's included with the game. Dr. Doom (a big metal guy) stole an advanced missile and is threatening the security of the Free World with it. The scenario pits you, as both Spiderman and Captain America, against the diabolical Doc and his henchmen, who dress in nuclear-powered, microcomputer-enhanced armor and favor horrible weapons like the Awful Severing Claw, the Impaling Freight Train, and the Exploding Pumpkin Bomb. To keep things fair, you get a stylish leotard and color-coordinated shield.

The Amiga conversion of Dr. Doom's Revenge is generally well-rendered. The graphics have some nice gray-scale depth, and the sound is good,



Your shield and superhero wits are your only defenses.

but the jerky animation betrays the game's origins. Play, while on the shallow side, is well-calibrated; each succeeding opponent requires you to master some new combat technique, thus leading you to absorb the bewildering array of joystick options on the fly. The degree of difficulty and your ability to cope increase apace. Unfortunately, the heavily copy-protected program entails interminable disk access, and the game may be too familiar to hold the interest of veteran players.

You never learn precisely why, or against whom, Dr. Doom seeks to exact his terrible Revenge. Nonetheless, Dr. Doom's Revenge entertains, and should afford young Marvel enthusiasts all the masked marauding and caped crimebusting they can handle. *($39.95, Paragon Software, distributed by Medalist International, 180 Lakefront Dr., Hunt Valley, MD 21030, 412/838-1166. Joystick required.)* ►

item is in your office at the college, though it's not readily apparent. Look at everything, however; you can't be sure what else might come in handy. Your dad's place holds a key item as well. Get the picture?

• You're exploring the lower reaches of your ship in *Universe III* (Omnitrend, $49.95) when you find a dark room whose occupant is firing a gun at you. You're never going to reach the planet with that bloke hanging around, so kill him. Bad news—you're unarmed. The gun on the shuttle is locked in its case until you set down on the planet. Perhaps you need to shed some light on the matter. Check out your possessions. If nothing does the trick, explore the ship more thoroughly.

• The opponents in the arena of *Hillsfar* (Strategic Simulations, $49.95) are tough, but not as tough as they seem. Each one has a quirk. *I* won't tell you what the quirks are, but somebody else might blab over a drink. The bars are founts of information.

You're on your own now. I'll meet you at the dungeon entrance next month. You bring the torches. □

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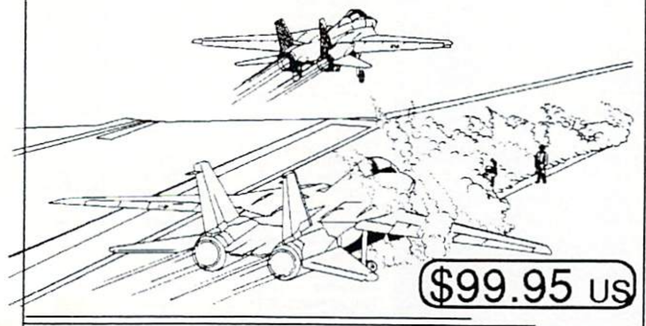
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Downhill Challenge

By Rick Teverbaugh

AN AVALANCHE OF unanswered questions buries Downhill Challenge before the skiier gets a third of the way down the hill. The game attempts to simulate slalom skiing, downhill skiing, giant slalom skiing, and ski jumping.

You had better know the rules of these Nordic events already, because the skimpy manual is little help. I was left wondering: How does the program keep time in the downhill events? What do the splits mean and where are they taken? What is the penalty for missing a gate? How many times do you go downhill in the competition mode (there's also one for practice) before you can move on to the next event? Besides pressing the Shift key or joystick button for extra height, how do you control the skiier while jumping?

At least you have above average graphics to look at while you ponder. The scenery you ski toward but never quite reach is nearly breathtaking. The viewpoint of the game is from about 15 feet behind the skiier. The game would come alive much better if it actually put you up on the skis with perhaps only your poles showing in each hand. . . and if it didn't sound as if you have a motor attached to your back after the starting bell.

The gaming public deserves more and usually gets it from Broderbund. *($34.95, Broderbund Software, 17 Paul Drive, San Rafael, CA 94903, 415-492-3500. No special requirements.)*

Tank Attack

By Patrick Quaid

IMAGINE PLAYING AN unfamiliar board game with a friend who knows the rules. As you play, your friend rolls the dice and reads the tables, then gives you the results without boring you with details. Imagine your friend is a computer and you'll know what it's like to play Tank Attack, a new strategy game from Artworx.

Fundamentally a board game for two to four players, Tank Attack begins when you place your twelve tanks and armored cars around your country. The outcome is determined by a series of day-long turns that start with vague newspaper reports of the previous day's events. You ask the program how many movement points you get for the day, move your pieces on the game board, then let the computer resolve any battles that come up. The game continues until all the headquarters of one side are destroyed.

The game comes with a large, good-looking map showing four countries, which are always organized in two alliances, and 48 plastic tanks and armored cars. Numbers on the bottoms of the pieces indicate their relative strength. ►

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The program itself also looks nice. It presents most information as telex messages and plays out the battles in short animations that seem more dramatic as the game progresses. Lots of extra touches, such as animated icons, help disguise the fact that the program is doing very little.

Because the computer is a peripheral part of the game, Tank Attack can be quite flexible. For example, I thought the units were too mobile, so I doubled the movement costs. Unfortunately, not all changes are that transparent. Each time a unit fires on an enemy, for instance, the enemy returns fire. Thus the rules say that not only can each unit fire only once, but a single unit can only be fired upon once. That way it can't fire more than once in a round. Because this rule severely screws up the advantage of numbers, I would have changed it, but there's no way to attack with more than one unit without each of those units being attacked.

Damaged units go in a repair depot until the computer says the job's done. Severely damaged units go to a rebuilding yard. When these spots are filled, any unit that sustains damage has to be taken off the board.

The three grades of tanks, two classes of armored car, the weather, morale, and terrain features will keep you on your toes. Because the details are handled by the computer, however, you can easily play without hours of training. Tank Attack handles its small scale well. *($29.95, Artworx Software, 1844 Penfield Rd., Penfield, NY 14526, 716/385-6120, 800/828-6573. No special requirements.)*

JOE BLADE

By Peter Olafson

NOT SAYING "CUTE" is hard after playing Joe Blade. Consider: Joe's head is about as big as his body. The folks he shoots turn into lovely sparkly things. The central puzzle is putting letters in alphabetical order—albeit at light speed. The background story for this arcade adventure has terrorists lead by Mrs. Bloodfinger's little boy, Crax, kidnapping six world leaders and asking $37 billion for their release. In a grown-up game, that would be a nice round number.

Joe must infiltrate Bloodfinger's 127-corridor fortress, grab the hostages and activate six booby traps. They will blow the place into large lovely sparkly things after 20 minutes if they are set correctly, and blow Joe to smaller lovely sparkly things after 30 seconds if they are not.

All sorts of stuff clutters the corridors (the average arcade-adventure wouldn't last long were housekeeping enforced). While doing the old horizontal scroll, Joe happens upon enemy uniforms, cell keys, bullets, and food. You collect them by walking Joe across them.

Play is smoothness itself. Movement is fluid, and when Joe jumps, he really soars. The graphics have that 16-bit sheen of reflected light. The power-chording intro is the ►

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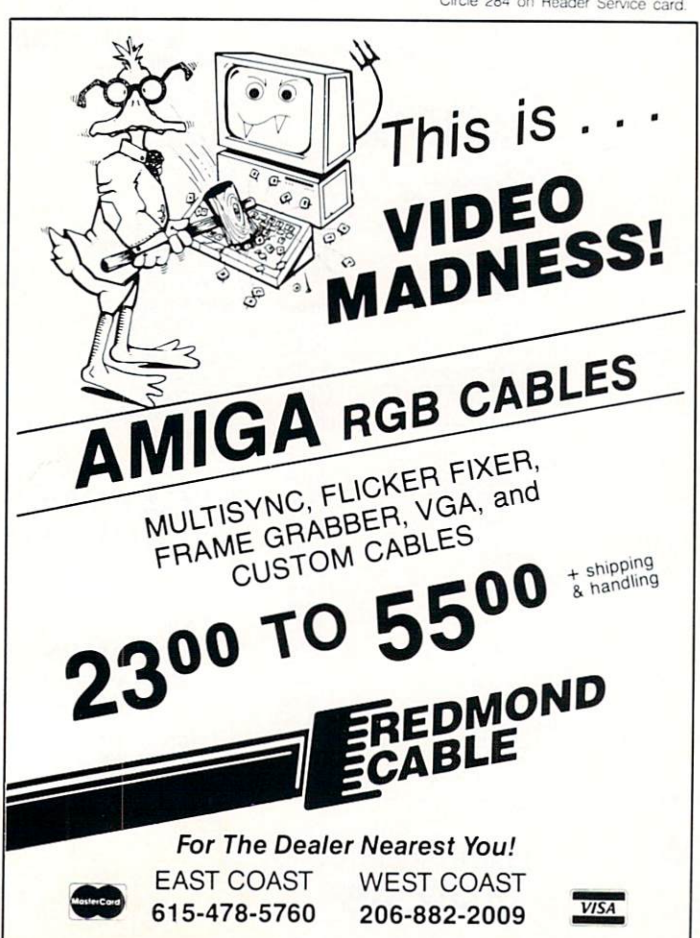
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only music; the game's sounds are disembodied, but clear.

At some point, however, you get used to the burnished graphics and ballet leaps and wonder if there is something more. This is where Joe Blade falls on his bayonet, because the "something more" is not there. Sure, you'll feel the usual pleasant tingle upon discovering a new scene (I especially like the bathrooms), but the opponents offer little variety. The hallways begin to look alike, and being lost is no fun. The game lacks the extra dimension or memorable feature to reward exploration and keep you coming back. Joe Blade is cute. . . but thin. *($29.95, DigiTek Software, 8910 North Dale Mabry, Executive Center Suite 37, Tampa, FL 33614, 813/933-8023. No special requirements.)*

Project Neptune

By Patrick Quaid

WHENEVER A CRAZED megalomaniac threatens the free world, the good guys send in a Special Agent. In Project Neptune, you are Special Agent Rip Steel battling the evil Yellow Shadow.

Yellow Shadow has set up an underwater uranium mining operation. The only way to stop him is to send in a one-man submarine to destroy all of his underwater bases, which are guarded by packs of evil agents riding underwater sleds. Each base has a power and supply link to at least one other base; cutting all of its links will destroy a base.

To destroy a link between two bases, you leave the sub, swim over to a node in the center of each link, and drop a time bomb. (Make sure you get out of the way before it blows.) The sequence is far too easy, because you can ignore your enemies (sharks, squid, enemy divers). They will shoot each other more often than they shoot you.

While you throw your wrench into Yellow Shadow's system, you drain your limited supply of bombs, fuel, and oxygen. When you get low on any of them, you'll need to visit one of your own supply bases, which are spread around the periphery of the map. Because destroying a single link on the higher levels can cause enough damage to require a supply trip, the game encourages you to play more conservatively, perhaps more cerebrally, than the arcade game trappings and dire world situation indicate.

Project Neptune's graphics are not terribly impressive. The lo-res screens use mostly dithered colors and the underwater terrain is flat and unrealistic. The animated sequences have no appreciation for inertia, which should be exaggerated underwater.

The best part of Project Neptune is the premise. There are several solutions to most problems, and the important events seem well-suited for exciting arcade segments. Unfortunately, the individual parts are unrealistic, too easy, poorly rendered, or all of the above. Wouldn't we be better off just sending in the Marines? *($39.95, Epyx, 600 Galveston Dr., Redwood City, CA 94063, 415/366-0606. No special requirements.)* ■

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EYE OF HORUS

This arcade game set in ancient Egypt puts the player in the role of Horus, son of King Osiris.

King Osiris' body was scattered in seven pieces by the evil god Set. Horus must locate the seven pieces, return them to the burial chamber, and restruct them there.

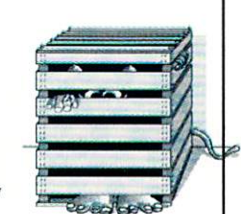
In a maze beneath the Sahara, hieroglyphs emerge to guard passageways. Gods transform into serpents and dragons. You must search for magic keys, and for the sacred amulets that you will need to confront Set.

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from p. 18
offer to retain as much of the data as can fit into the new form.

FormAtion opens with a full-size working window. The program multitasks well with quick access to the Workbench through gadgets or key combinations. All functions are accessible via pull-down menus, and there are hot-key options for many of them. Double clicking the right mouse button summons a fast menu, consisting of 17 buttons for the most commonly used options, to the top of the screen. The operation currently in effect is noted in the center of the menu bar.

The on-screen working area measures is about 7¾ inches wide by 3¾ inches high. In interlaced mode, the working surface more than doubles in height. Large forms can be easily scrolled about the working window while small ones will occupy just part of it. The cursor's location on the page is shown in the title bar in terms of inches from the upper left corner of the form. I think it would have made more sense to allow positioning of the cursor by row and column, as FormAtion's layout window is based on an invisible grid of 10 columns by six rows to the inch.

LAYER IT ON THICK

Each form is composed of four layers. The bottom layer contains any horizontal and vertical lines to be drawn on the page. FormAtion provides a variety of tools for placing and editing lines, rectangles, and grids. You have a choice of four line weights and patterns, and corners formed by abutting lines can be square or rounded (the program automatically inhibits corner rounding when lines intersect).

The second layer consists of bit-mapped graphics. FormAtion can import any IFF images ranging from simple two-color brushes to interlaced HAM, but it limits display and printout to the four screen colors. The program works best with two-color images, as the color-conversion process is apt to yield bizarre results. A standard lo-res Amiga screen (320 × 200 pixels) occupies a 4 × 4¼ inch area on a printed FormAtion page. You can resize imported images, both vertically and horizontally, and position them anywhere on the page. Image priority (which determines which graphics will take precedence in the case of overlap) is based on the order in which the images are imported, but can be easily changed.



FormAtion is neat for someone like me who owns a business. Purchased forms are often not quite adequate, but with FormAtion, you can quickly, easily, and inexpensively create and modify forms to fit your needs. The included templates save you from having to start from scratch. When I design a form, I upload it to a service that prints it on a Linotype.

—***Pat Donnelly***
Rosedale, NY

Images always take priority, however, over the bottom layer of horizontal and vertical lines.

Text has the second greatest priority in FormAtion. To enter text you must first create a box to contain it. Such boxes are lightly outlined blank areas that overlay the rest of the working area. You can type text into a box or bring it in from an external file. If a block of text is too lengthy to fit in its designated box, the excess will remain unseen and unprinted unless you enlarge the text box or link it to another, in which case it will flow into the second box automatically. As with images, text boxes can resized, moved about, and overlapped, and while display priority is based on order of creation, it can be easily altered.

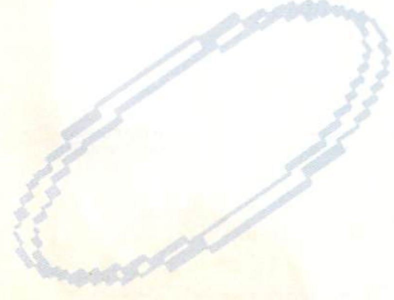
The data that you fill in on a completed form has priority over all other elements. You can define data fields anywhere on the page simply by dragging out a single-line box with room for the required number of characters. The program assigns each data field a sequence number and a name. The name is used only to identify the field during manual data entry and is not printed on the form. The numbers are for convenience; you can reorder the sequence for data entry after creating the fields. Data fields can be either text or numeric, and data can be displayed flush left, flush right, or centered. For numeric data you specify the number of decimal positions (up to five) along with one leading or trailing character (for currency values, percentages, and the like). At any time, you can resize, rearrange, or redefine data fields.

In one respect, FormAtion functions like a free-form spreadsheet: You can define any mathematical operations to be used to automatically fill the data fields. To set up math operations, simply click on the appropriate data fields and mathematical operators—addition, subtraction, multiplication, and division—and add any parentheses and numerical constants you wish to include. The resulting equation is displayed as you create it. As with all other structures in FormAtion, equations can be redefined at any time.

THE FILLING STATION

You can enter data into completed forms either manually or automatically. During manual data entry, FormAtion steps through the sequence you defined while creating the data fields. A requester shows the name of the field and waits for input. The type of data required is not shown (unless you made it part of the 10-character field name), and FormAtion does not check the data as it is entered. If you type text into a numeric field, it is simply treated as a zero value. It is even possible to crash the system by entering too large a number into a numeric data field.

You can skip fields simply by clicking on the next box you wish to fill. FormAtion automatically picks up the defined order from the new point. When you fill in the final data field, FormAtion performs all of the mathematical calculations and completes the form. You can save



data to disk, and also enter data, such as customer lists, from files automatically, to expedite billing, for instance.

FormAtion provides three ways to print a form. Graphics mode, which produces a bit-mapped dump of the entire page, is the only mode that lets you resize the horizontal and vertical dimensions as a percentage of the original. In Text-and-Graphics mode, the program gives you bitmapped output for IFF images, lines, and grids, and uses the printer's built-in fonts for text and numeric data. (Before using this mode, you must align the data and graphics by entering a parameter into the program—a test form is included on the program disk for this purpose.) If you have a printer that supports the IBM-graphics character set, you can use Text mode. While this is the fastest way to print, only printer fonts are used, so IFF graphics cannot be printed, and the lines and grids will not necessarily match the screen.

FormAtion delivers what it promises and then some. In a pinch, you can use it as page-layout program for creating single-page notices, handbills, and posters. The program is easy to learn and simple to use. Form design is surprisingly fast and data entry is remarkably efficient, and the distribution disk contains several samples that are helpful in learning to use the program. Formation does have shortcomings though, one of which is the manual. Many of the programs features are not even mentioned! The area needing the most work, however, is data entry. Data-entry requesters should specify the type of data required, and the program should check entries to be sure it is acceptable. A data-entry mode to lock out the form-modification aspects of the program would be helpful, too, as it would allow clerical staff to complete and print forms without accidentally modifying them. Still, if you have a need for FormAtion's special skills, I do not hesitate to recommend it.

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ICON PAINT

ICON MAGIC

Icon do it two.

By Sheldon Leemon

EVERYONE WHO OWNS an Amiga already owns an icon-editing program. Unfortunately, the Workbench's IconEd is unimpressive; its own icon, a box of three crayons, eloquently sums up its capabilities. Because Amiga users are accustomed to high-powered graphics tools, it's natural that developers would try to come up with something more sophisticated. Two commercial programs vying for the title of ultimate icon editor are Icon Magic from Glacier Technologies and Icon Paint from HiTension Computer Services (MAST).

DOUBLE CLICK

Icon Paint and Icon Magic are similar in design to conventional paint programs. Both, for example, have tool boxes that allow you to draw freehand lines, straight lines, and boxes, all of varying thicknesses. Each has a magnifier with which you can zoom in on small areas of the picture for detailed work. Both let you work on alternate images (that show up when you click the icon on the Workbench screen) at the same time you edit the primary image, something that IconEd does not do. Also in departure from IconEd, Icon Paint and Icon Magic allow you to load any IFF picture, and to select the icon type (drawer, tool, project, and so on) from a menu. With both, you can create icons in two to 16 colors, not just the default four colors found on the normal Workbench screen. (Such icons will show their "true colors" only after you run a special program—using techniques not supported by Commodore—to change the number of colors ►

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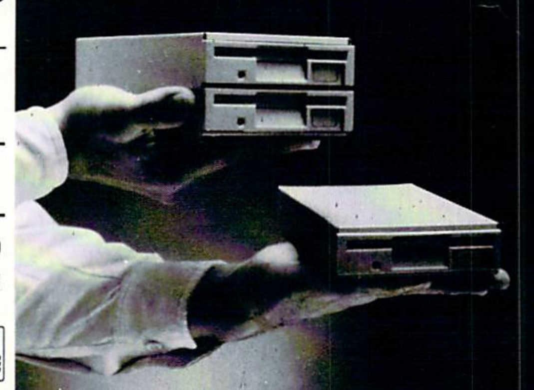
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Circle 262 on Reader Service card.

on the Workbench screen.) Because Commodore's Preferences lets you set only four colors, both packages include programs to set the palette for the expanded Workbench colors. Also, Icon Paint provides a utility for creating an additional Workbench screen.

ICON PAINT

Icon Paint follows the paint-program model more closely than Icon Magic does. It has more paint tools, such as filled and unfilled rectangles and ellipses, and although a text tool lets you add words to your icon, it has no provision for choosing fonts or the draw mode of the text, as IconEd does. Icon Paint allows you to copy an image for highlighting, and to swap the primary and secondary images. All images are created within a frame that is 319 pixels wide by 91 pixels high, but when you save the icon, you select a smaller size.

One annoying flaw in Icon Paint's design is its lack of keyboard equivalents for pull-down menus. Also, the program's file requester uses a fixed list of devices rather than checking to see which devices are actually connected to your machine. The requester searches df0: first, even if there is no disk in that drive, so hard-drive owners always get an error message the first time the requester appears.



Icon Paint offers excellent control over 16-color icons. Unfortunately, the 16-color Workbench utilities will not run. Also, I wish it let you select the font to label icons with.

—*Hal Belden*
San Jose, CA

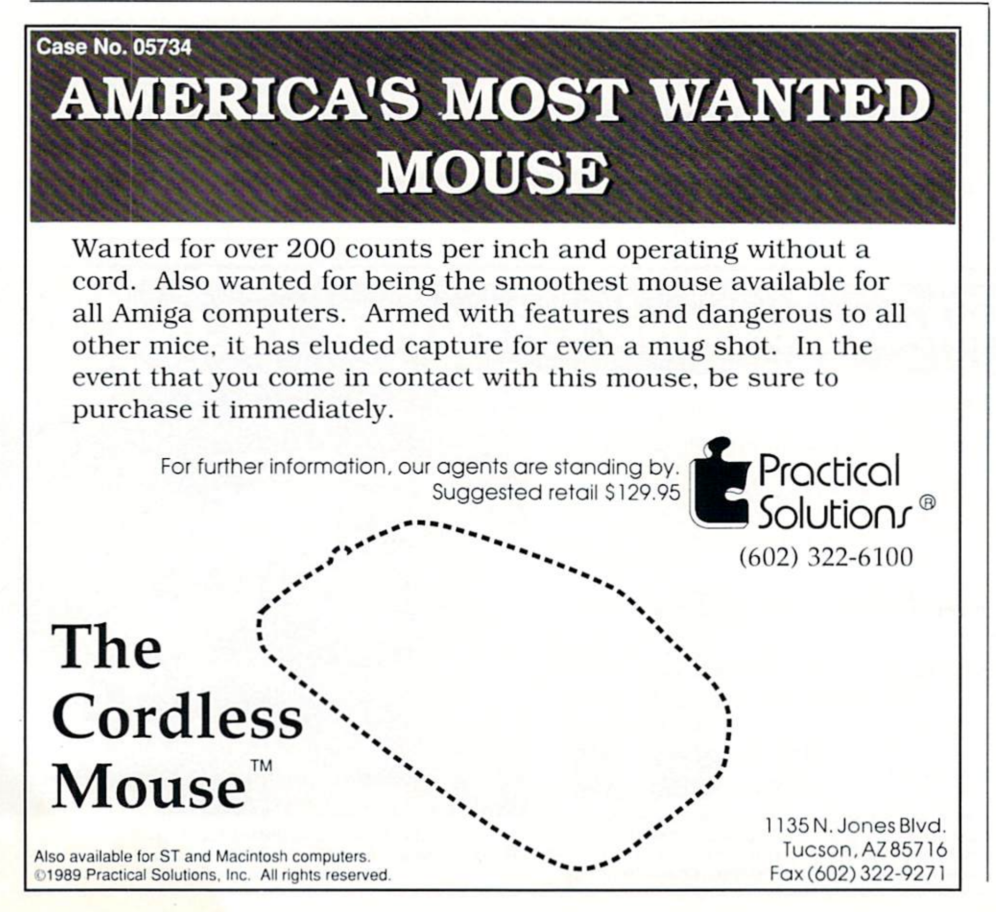
Project icons are saved with "sys:system/diskcopy" designated as their default tool, a selection that is appropriate for disk icons. The program uses its own default color palette instead of reading in that of Workbench Preferences (the reasoning behind this is obscure, as all icons end up on Workbench, using that screen's palette). The program does not support interlace, making it impossible to see how your icons will look in hi-res. Finally, the magnify tool lets you enlarge only a small portion of the image at any one time, and does not allow you to scroll through the larger image.

ICON MAGIC

Icon Magic has more features than Icon Paint, and more power and flexibility as well. It lets you create images almost as large as the entire screen. You can grab imagery directly from any other screen display, or load graphics from files. The program allows you to resize imported images, bringing large pictures down to icon size and enlarge smaller ones. Its display of the picture's pixel width and height makes it easy to size icons exactly (icons that measure an even multiple of 16 pixels wide or a bit smaller take up less screen space that those that are a bit larger). Icon Magic allows you to store multiple images to the clipboard, to browse through them, and to paste any of them back to the icon image.

Icon Magic allows you access to some characteristics of the icon over which you would normally have no control. For example, when creating a drawer icon, you can specify both the block and detail pens for the window that opens when you click on the drawer. This determines the color of the title bar and drag bar lines. You can specify the size and location of a window just by dragging around the sample window, sizing it, and positioning it. You can specify the position of tool and project icons within their windows, too, although the program requires you type in coordinates for these operations, rather than allowing you to set them by dragging.

Another unique feature of Icon Magic is the number of formats in which you can save your graphics information. In addition to producing normal icons, the program can save any image as a Workbench pointer. It can generate source code for incorporation into your own programs by creating text files that de- ►



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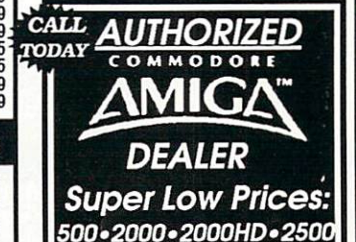
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scribe graphics data in programming terms. The program can deliver source code for a number of image-related data structures, and save them in the proper format for BASIC, C, or assembly language programs. The manual includes a short tutorial demonstrating the use of the stored images in Amiga Basic.

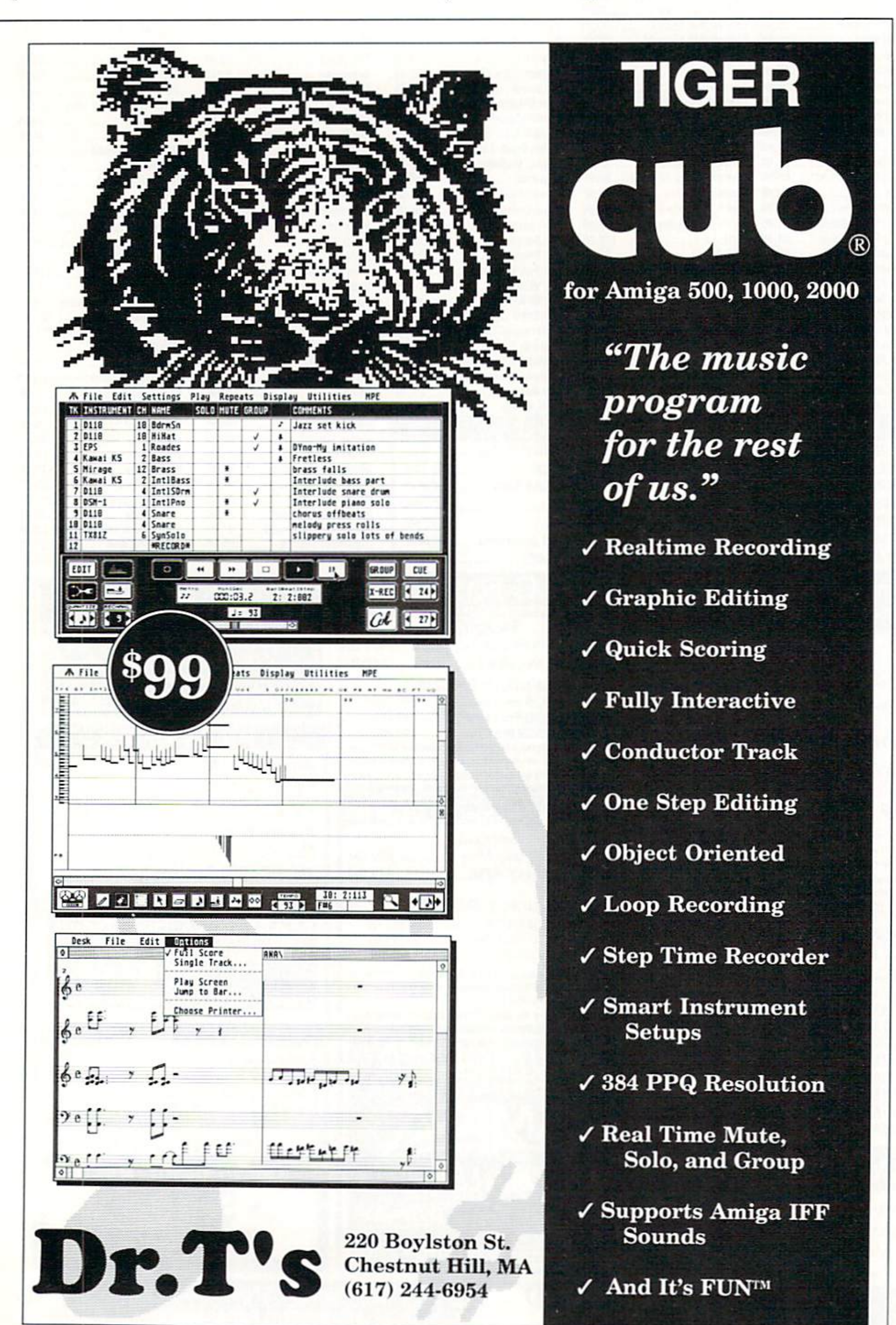
Icon Magic supports the SmartLink protocol, which allows it to exchange graphics data with other Glacier Technologies programs such as the Spritz and Express Paint paint packages. This means that if you run both Express Paint and Icon Magic, you can create a brush in Express Paint and send it directly to Icon Magic without first saving it. While inter-process communication is desirable, using a non-standard protocol such as SmartLink undercuts its usefulness. The Amiga community has already begun the job of creating standards for direct communication between programs, and Glacier Technologies would be far better served by adopting these standards rather than ignoring them.

Despite its greater flexibility, Icon Magic suffers from many of the same types of deficiencies as Icon Paint. It uses its own set of default colors, not those of the Workbench. It does not allow you to set the default tool for a project icon. It has few painting tools (it does not include a circle or ellipse tool, or any provision for adding text to the icon), and its magnifier does not work on images larger than 200 × 100 pixels. It allows you to create different sized images for the primary and alternate icon views, which can confuse the Workbench and lead to incorrect highlighting of icons. The menu layout is not always logical; there are Save and Load commands for icons on one menu, and Get and Store options for saving and loading IFF images on another. Unlike Icon Paint, however, the program does provide some keyboard equivalents, and lets you view the screen in interlaced mode.

THE BIGGER PICTURE

More important than my criticisms of individual features of these programs are my concerns about the programs themselves. Both encourage the design and use of eight- and 16-color icons in a manner not supported by Commodore's system software, and which may not work in future versions of the operating system. Even worse, they seem to promote the design of large, garish icons instead of small, tasteful ones. The sample icons included with these packages are a case in point. Instead of making the Amiga resemble other machines in its performance class, such as the Macintosh, NeXT, or graphics-oriented Unix computers, they make it look like a C64 running GEOS. And finally, these programs provide very little utility for the dollar when compared to other programs in their price class. No matter how good an icon editor is, it cannot be compared to a word processor or music program, and it should not be priced like one.

This is particularly true when there are good public-domain and shareware ►



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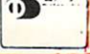
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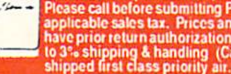
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programs that perform the same functions, and in many cases do it better than these programs. My personal favorite among these is John Scheib's IconMaster. It has more sophisticated paint features (such as dithered palettes, custom brushes and text rendering using your choice of fonts and drawing modes) than either Icon Paint or Icon Magic. It uses the Workbench screen, where icons are normally drawn. It's got keyboard equivalents, uses the Help key, and is the only one of the three that lets you set the ToolType and Default Tool fields right from the editor. Because IconMaster offers much if not all of the functionality at a fraction of the cost of either Icon Paint or Icon Magic, only the most fanatic icon enthusiast should consider these packages.

Icon Magic
Glacier Technologies
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JetMaster

PostScript-like control over PCL.

By Loren Lovhaug

THE ARRIVAL OF affordable laser printers in the early '80s made high-quality desktop publishing practical on microcomputers. Over the years two laser-printing standards, or more accurately, page-description languages, have evolved and gained wide acceptance. These two languages are Adobe's PostScript and Hewlett Packard's PCL. Despite PostScript's font handling advantages, PCL-based laser printers have substantially outsold PostScript printers because of their vastly lower cost, faster printing speed, and the availability of software, like JetMaster from C Ltd, that can make up for PCL's limitations.

JetMaster is primarily a font editor and special-effects generator. It lets PCL (also called "HP-compatible") laser-printer owners manipulate, alter, and create "soft" fonts for use with Amiga applications. (Soft fonts are software-based character definitions that, when loaded into the laser printer's memory, function as if they were built into the printer.)

All Over Changes

Perhaps JetMaster's most important feature is its ability to make global changes to font sets. Unlike PostScript, which can mathematically rescale and modify fonts on the fly to fit your size and style requirements, PCL requires that you load a different font set to make changes in text. For instance, if you were using a ►



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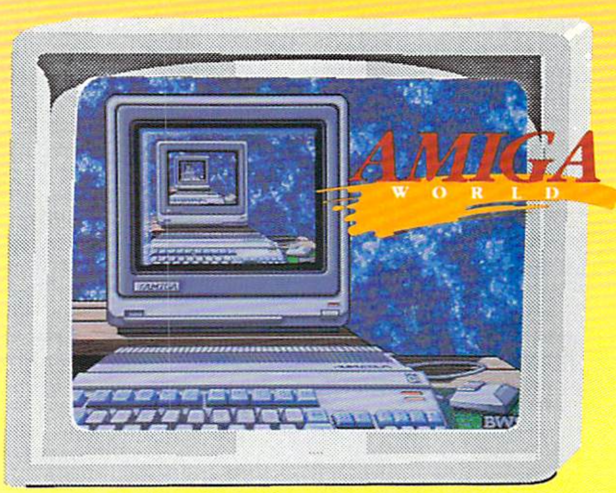
- Zero in on price/performance comparisons of the Amiga, MAC and PS/2, and be astounded by the impressive array of third party support commanded by Amiga...

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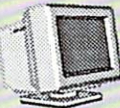
- Review the limits and advantages of cell and morphological animation. Create special effects and presentations using LIVE!, Mandalla and review five other software programs.

- Dean Freidman talks about his groundbreaking Nickelodeon project. Do you need The Director or will a simple slide show do it? How do you display images... control them...flip forward and backward between images?



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normal 12-point Times Roman font in your document and wanted to switch to a bold version of that font, with PCL you would have to load 12-point Times Roman boldface into your printer. If you did not have a bold Times Roman, you would be out of luck. With JetMaster, though, you can create dozens of PCL soft fonts from a single font automatically, much like you can with PostScript. In addition to bolding, you can add to PCL soft fonts any one or more of the following attributes: italics, shadowing, outlining, reversing, the creation of a mirror image, left and right character rotation, or horizontal and vertical character flipping. You can also globally rescale a font to create a different size character set.

JetMaster also gives you complete control over built-in HP font attributes. These include selections for the number of characters per font (128 or 256), baseline position, font cell height and width, orientation, proportional or non-proportional spacing, the setting of the default horizontal and vertical motion indices, style, stroke weight, typeface, shadow depth, and outline thickness. Additionally, the program includes an 11-command script language for selecting various global effects.

On an Individual Basis

JetMaster allows you to edit not only whole font sets, but individual characters as well. You can touch up characters one at a time, or insert elements from one font set into another. This is useful when you find special characters, such as trademark or copyright symbols, in one set that you want to use with another font. JetMaster can also modify the technical characteristics, such as top and left offsets, and kerning (deltaX) value, of each character.

JetMaster can import and export Amiga screen fonts, thus allowing you to convert PCL fonts to Amiga fonts and vice versa. HP PCL fonts converted to Amiga format can be used in a variety of applications such as paint packages and video-titling programs. Because they are designed to be rendered at 300 dots per inch (dpi) and therefore are drawn in greater detail using a larger matrix than most Amiga fonts, PCL fonts look fantastic as large Amiga screen fonts.

In conjunction with packages such as City Desk 2.0 that support HP soft fonts, and C Ltd's other PCL-utility program, JetSet, this conversion ability also lets you create Amiga screen fonts to mimic resident printer fonts, and thus more accurately represent printed output. Keep in mind that while the typical Amiga monitor screen is about nine inches tall and represents a maximum of 704 pixels (dots), or roughly 75 dpi, nine inches on a 300 dpi laser printed page represents 2700 dots. This means that a directly converted PCL font will appear four times larger on screen than on the printed page. By using JetMaster's scaling options, you can easily make up for this differential.

JetMaster is quite easy to learn and use, even without a complete understanding of all its features. The program can operate solely via pull-down menus and a paint-program-type icon toolbox, although a full set of keyboard shortcuts is provided. JetMaster's manual is well organized, with a table of contents, in- ►

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dex, and a complete "guided tour" of the program's capabilities. Insightful commentary and illustrations are included, and the appendix does a nice job explaining the inner workings of PCL and Amiga screen fonts.

I recommend JetMaster to HP-compatible laser printer owners who want to make use of their printers' sophisticated soft font capabilities. While you may not use all of JetMaster's features, the program's conversion and modification capabilities will give you your moneys worth.

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B A C K T A L K

CANDID RESPONSES TO *AMIGAWORLD* REVIEWS

Sim City (Maxis Software)

I purchased Sim City based on your recommendation (see p. 30 in the November '89 issue). Not until the game arrived at my doorstep did I find out that it requires a megabyte of RAM to run. I have only 512K, and feel that it was irresponsible on the part of both Software Discounters of America (from whom I purchased the program) and especially *AmigaWorld* for not informing me of this requirement beforehand.

—**Bob Malmet**
Not Sim City

We apologize for causing you inconvenience by not printing memory requirements in our games countdown. We spoke with Maxis Software and learned that they have just finished a 512K version of Sim City, which they will bundle with the one-megabyte disk and sell for $49.95 through Broderbund. The memory-conserving package is not available separately except to owners of the original version. Contact Maxis directly (953 Mountain View Dr., Suite 113, Lafayette, CA 94549, 415/376-6434) to swap your one-meg Sim City for the 512K game.

—**Editors**

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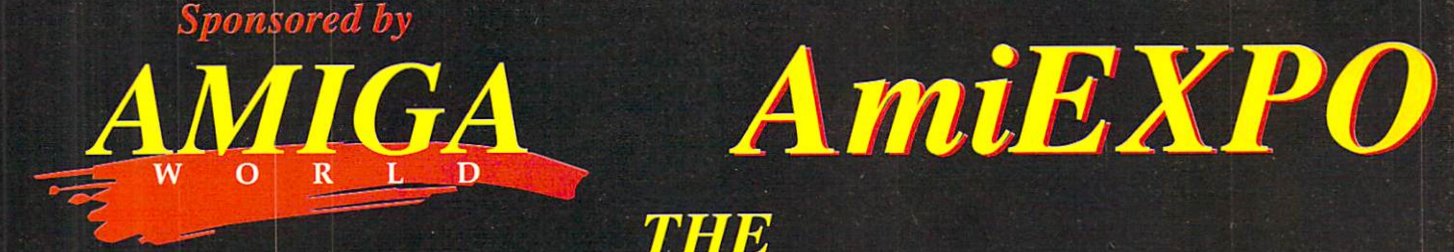
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You needn't feel the sting of Cupid's arrow to love your Amiga.

Here are some gift ideas for your Valentine.

Compiled by Jan Jackson

TAKE COVER!

BRODERBUND SOFTWARE instructs: **If It Moves, Shoot It!** ($29.95). Not to incite hysteria, but to announce a new alien shoot 'em up. At times during the game, you can exchange weapons to gain extra fire-power or a strategic advantage.

Joan of Arc: Siege and The Sword ($44.95) takes you back to the Middle Ages. This Broderbund (17 Paul Dr., San Rafael, CA 94903-2101, 415/492-3200) game includes five action sequences with battles, hand-to-hand struggles with English soldiers, and assaults on fortress walls. Choose among 31 characters and 73 authentic locales to build your strategy. *RS# 506.*



"Do you see anything moving in there?"

FROM HERE TO ETERNITY

STORE UNLIMITED DATA with **Infinit40**, a series of removable-media-drive subsystems. By utilizing 40MB cartridges, you can store lengthy animations, numerous graphics, or other data. Choose an external or internal unit: The internal **IVS Infinit40/i** ($1249.95) package includes a Trumpcard SCSI controller and a SyQuest drive assembly. An aluminum casing houses the SyQuest drive assembly for the external **IVS Infinit40S** ($1549.95) package. This version includes a 40-watt auto-switching power supply that adjusts for voltage variations, and a toggle selector that lets you change SCSI device IDs without opening the box. A double-height version of the chassis, the **Infinit40D** ($1749.95), accomodates half-height 5¹/₄- or 3¹/₂-inch floppy drives or a second SyQuest drive mechanism. All packages come with two 40MB cartridges, software, and cables.

If your parallel port is occupied and switch boxes don't turn you on, add a second Centronics-compatible output port with **PrInterface**. For $79.95, PrInterface lets you use your system's parallel port for digitizers or other hardware while it takes care of your printer's messages via software.

Expand your A2000's memory with **Meta4**, a memory expansion card with SIMM memory modules in 512K ($329.95), 1MB ($479.95), 2MB ($579.95), or 4MB ($949.95) increments. The card's half-length design fits in the slot immediately to the right of your hard drive to minimize interference.

For more information, contact Interactive Video Systems at 11612 Knott Ave., Suite 13, Garden Grove, CA 92641, 714/890-7040. *RS #514.*

And Then Some

DIGI-VIEW 4.0 ($24.95 for upgrade), the popular video digitizer from NewTek (115 Crane St., Topeka, KS 66603, 913/354-1146), has reached a higher plane. The enlightened version's dynamic palette control allows 4096-colors in hi-res with full overscan. ARexx support now lets you control Digi-View through other programs allowing remote, time lapse, or automated operation. Display captured images directly into Digi-Paint 3 for editing and enhancement. Digi-View 4.0 supports 68020 and 68030 processors. *RS# 503.*

Now imagine, if you will, you are a 21st-century youth racing through time collecting historical artifacts. To compete in *Adventures Through Time—Vol. I: The Scavenger Hunt* ($49.95), commandeer your father's time machine and journey into the past where you will find the required objects. You will master the intricacies of time travel, overcome perilous and life-threatening obstacles, and solve puzzles. Begin your sojourn by contacting Aurum Software, PO Box 5392, Ventura, CA 93003, 805/659-3570. *RS# 504.*

Users of *Extend*, an Amiga Basic extension, should note update 1.3 with 72 commands is available from SunSmile Software (533 Fargo Ave., Buffalo, NY 14213, 716/885-5670). The package features full IFF-sound support via a number of commands (including ExtendedSound, SoundOff, Channel, SetVolume, SetRate, SetLength, SetAddress, StartSound, and StopSound) that allow individual control over each channel. The ExtendedSound command lets you play a standard IFF sound file independently of Amiga Basic. Extend 1.3 includes proportional and Image gadget support so you can include your favorite artwork. Binary loading and saving has also been added. *RS# 505.*

***ProVector*, a structured drawing program, helps you create complex ►**

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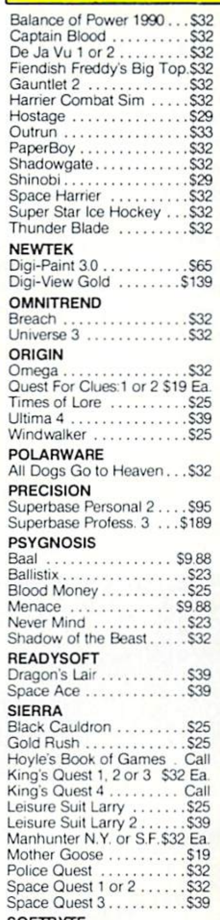
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artwork without requiring mathematic expertise. Taliesin Inc. (PO Box 1671, Ft. Collins, CO 80522, 303/484-7321) designed the package for those who are accustomed to the B-spline concept. ProVector includes Bezier Curve and free-hand drawing tools. It features ARexx support, the ability to plot structured graphics to SuperBitMaps for IFF files in any size, and dithering routines to simulate 256 on-screen colors. *RS# 512.*

Your Amiga can transmit and receive hi-res facsimile and slow-scan television images with the *Amiga Video Terminal* (AVT) ($349.95). AVT operates on a 400 Hz bandwidth (instead of the conventional 1100 or 1200 Hz SSTV bandwidths) for improved signal-to-noise ratio and clearer reception of weak signals if used in conjunction with a CW filter and IF shift. For more information, contact Advanced Electronic Applications, PO Box C2160, Lynnwood, WA 98036-0918, 206/775-7373. *RS# 507.*

Enhance your programming style with *Advanced System Programmer's Guide* ($14.95). It offers hints on transferring data using CLI arguments, details on using libraries and structures, and instructions for working with the clipboard and IFF files.

Video hardware and software packages abound for the Amiga: genlocks, scanners, digitizers, frame grabbers, paint programs, video titlers, 3-D renderers and ray tracers, and special effects generators. *Amiga Desktop Video* ($19.95) will help you sort them out and set up a studio that is appropriate for the work you plan to do. Both the programming and video books are available from Abacus (5370 52nd St. S.E., Grand Rapids, MI 49508, 616/698-0330). *RS# 513.*

Magellan 1.1 has arrived sporting a new user interface. You can purchase the latest version from Emerald Intelligence (3915-AI Research Park Dr., Ann Arbor, MI 48108, 313/663-8757) with ($249) or without ($195) the new *Magellan Interface Toolkit.* The Toolkit, which works only with verson 1.1, interfaces ASCII text files, performs serial-port-in and -out operations, offers ARexx macros, reads Superbase (Precision) database files, and retrieves data from Lotus-format spreadsheets. The latest version includes new window scroll bars, automatic legal values, GET and PUT processes, a selection of rulers and objects for editing, and more. *RS# 508.*

Let *BGraphics* be your business-presentations partner. Select line, column, bar, pie, or text charts to illustrate your ideas for proposals and reports. The program lets you place text and simple geometric objects anywhere on your chart and freely position all items. This Technical Resource Systems Laboratory inception is available from Brown-Wagh Publishing (16975 Lark Ave., Suite 210, Los Gatos, CA 95030, 408/395-3838). *RS# 510.*

If you are ready to take your culinary talents on the road the *ACE/Professional Catering Version* ($79.99) is for you. This electronic cookbook includes 175 recipes from The Celebrity Cookbook plus a variety of professional caterer's recipes. The program calculates measurements to accommodate up to 9,999 servings based on US standard cup amounts and customizes menus for your food-and-beverage business. If you enter a list of the foods you have in stock, the program will conduct a six-way search through recipe files to locate an appropriate recipe. USA Media (7810 Malcolm Rd., Clinton, MD 20735, 301/863-8369) will get you cooking. *RS# 511.*

Sync sound effects to Anim files with *TV*Show 2.0.* The latest upgrade to this special-effects slide show for graphics, animation, and sound is compatible with IFF formats including HAM and Extra_Halfbrite modes, overscan, both NTSC and PAL screen sizes, and gives you over 40 variable-speed transition effects. Contact Zuma Group, 6733 N. Black Canyon Hwy., Phoenix, AZ 85015, 602/246-4238. *RS #515.*

Run dBASE applications on your Amiga with *dBMAN V 5.2* ($295) from VersaSoft Corporation (4340 Almaden Expressway, Suite 250, San Jose, CA 95118, 408/723-9044). Driven by pull-down menus and pop-up windows, dBMAN V 5.2 features 130 new and enhanced commands and functions over dBASE III PLUS. The stepped-up version boasts a relational report writer that lets you create complex reports without programming. Simply place the required fields on the screen, then design the layout by cutting, moving, and pasting them with keystrokes. The program comes with a compiler that supports macros and executes dBASE programs. The system's unlimited-runtime distribution fee is $250. *RS #516.* ■

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HORS D'OEUVRES

Hints, tips and techniques from your fellow Amiga users.

Compiled by Tim Walsh

THE VERSATILE >

AS YOU MAY know, issuing the "DIR OPT a" CLI command lists all of the current device's directories, subdirectories and files to the screen. Unfortunately, the command syntax needed to send this information to the printer is largely unknown, and relies on the > symbol. Rather than following the standard "DIR OPT a to PRT:" pattern, a ">PRT:" must precede the "OPT a" parameters, as follows:

```
DIR >PRT: OPT a
```

Further expanding on the command, the following creates a disk file named "file" containing all of the same directory information:

```
DIR >file: OPT a
```

You can even write the current drive's directories and files to a file on another disk drive, as follows:

```
DIR >DF0:file: OPT a
```

As an alternative to using "DATE to PRT:" for printing the day, date and time to the printer, use the following command:

```
DATE >PRT:
```

Experiment with the > symbol and you'll discover its many other uses.

Mark A. Cahill
Perth, Western Australia

SAVING AMIGA BASIC LINES

WHEN TESTING PROGRAMS from within Amiga Basic, don't erase a line if there's any doubt you might need it later. Rather, simply place a REM statement at the beginning of the line. If you later decide the program should execute the line, simply remove the REM.

James Hacault
Mariapolis, Manitoba, Canada

GETTING C IN RAM

SINGLE-DRIVE AMIGA users are painfully familiar with those tiresome ordeals in disk-swapping needed to perform simple CLI and Workbench tasks: You remove the Workbench disk and replace it with a second disk, and you're prompted to reinsert the Workbench disk, then reinsert the second disk, and so on.

A surprisingly simple solution is as close as your favorite text editor. Just activate the editor and enter the following script file and save it to disk with the filename C-RAM.

```
MAKEDIR RAM:C
ASSIGN C: RAM:C
COPY DF0:C/Arc RAM:C
COPY DF0:C/Assign RAM:C
COPY DF0:C/Cd RAM:C
COPY DF0:C/Copy RAM:C
COPY DF0:C/Delete RAM:C
COPY DF0:C/Dir RAM:C
COPY DF0:C/Endcli RAM:C
COPY DF0:C/Execute RAM:C
COPY DF0:C/List RAM:C
COPY DF0:C/Newcli RAM:C
COPY DF0:C/Prompt RAM:C
COPY DF0:C/Run RAM:C
COPY DF0:C/Type RAM:C
```

The above script copies the most commonly-accessed AmigaDOS files to the new C directory in the RAM disk. Once you've saved it, enter the following script and save it to disk under the name C-DISK.

```
ASSIGN C: DF0:C
DELETE RAM:C All Quiet
```

Once you have both of these files saved to disk, execute C-RAM from a CLI, then use your various application and utility disks as you normally would. You'll find that you're prompted to insert the Workbench disk far less frequently because the RAM disk is accessed, rather than DF0. When you no longer need the C directory in RAM, delete it by executing C-DISK.

Mark D. Manning
Okinawa, Japan

AMIGA BASIC SCRIPTS

IF YOU'RE FED up with using Amiga Basic's slow, awkward line editor, then try creating BASIC scripts using your favorite text editor. Write the program using the text editor, save it as a script file to disk, then activate Amiga Basic and load it in.

There are two other advantages to using a text editor beyond better editing tools. First, you can run both Amiga Basic and the text editor simultaneously and share the RAM disk between them. Second, if you save the Amiga Basic program file as an ASCII file using a ",a" option at the end of the filename, as in <program,a>, you can edit it afterwards with the same text editor. Try doing that with a file saved with the Amiga Basic line editor!

Brian Lanning
Valencia, CA

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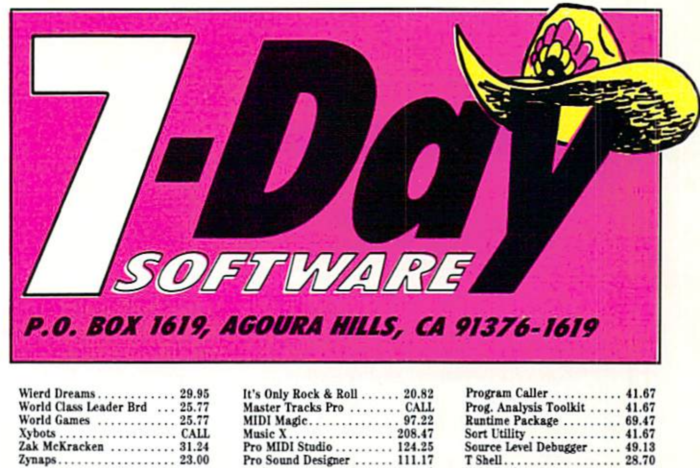
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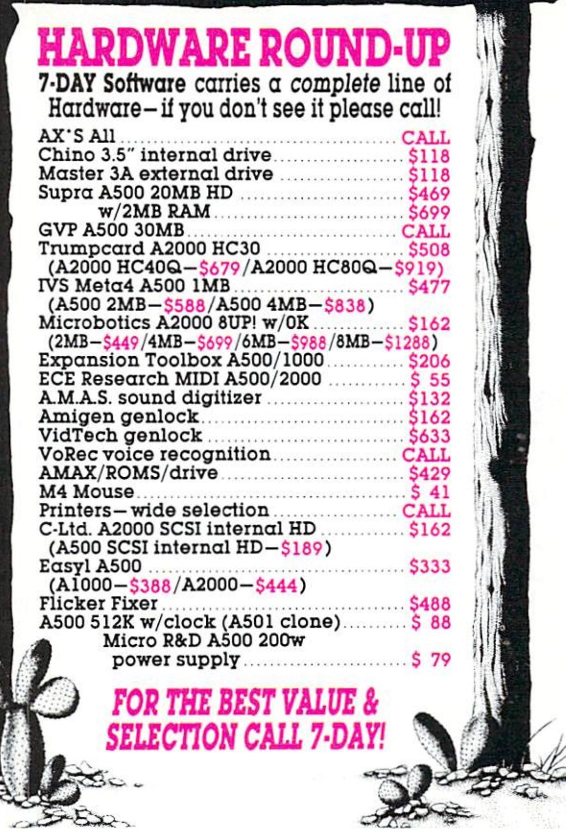
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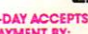
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Teeing Off



YOU KNOW WHAT golf pros look like. They are generally clad in awful polyester slacks, brightly colored sweaters, and spend most of their time hanging around the country club trying to look busy. Right?

Well, unless Paul Boden dresses his Amiga in polyester, his version of the golf pro is going to look quite a bit different from this familiar stereotype.

Boden, a principal in the video and graphics firm of Boden, Williams, Pfohl and Associates, is just finishing up an innovative interactive video system to teach golf. The system will use either a laser disk or videotape player, a touchscreen, and of course, an Amiga.

The center of the system is an Amiga configured to control several video decks, which can randomly access and then play back video. Boden and crew add to that digitized music or voices to create the video-training system.

The system is both attractive and flexible. The student can choose the teacher, and then decide which area he wishes to focus on. Then he can go off and practice.

But that is not the end of it. The system can record a golfer's swing, and compare his swing to that of a professional. The system creates a computer-animated graphic outline of the professional golfer's swing. This is laid over the amateur's swing for direct comparison. The student can also create a tape of the lesson for home viewing.

That would impress a lot of people, but Boden takes it another step. Using the system's special effects, the student can use slow motion, still frame, zoom, and split screen.

If Boden's system is successful, he may end up starting a trend. Most intereactive video is based on videodiscs, which can boost overall production costs to $40,000–$200,000, Boden said. By using cheaper, more conventional videotape play technology, however, those costs can be dramatically slashed, something Boden clearly aims to do with his Amiga-based system.

Boden's training system is not only sophisticated, it is also always available. Unlike many human trainers, you don't have to track this one down in the bar.

—Doug Barney

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AMIGA PROFILE

The Glass Cockpit



YOU ARE SITTING behind a small bank of computer monitors, flying stick in hand. The engine starts with a roar, RPMs racing higher as the throttle opens. Before you know it, you are swooping through the air, surrounded by other choppers. The enemy approaches, and you deftly launch a missile. Direct hit!

What's this? A new James Bond movie? No, it's just the Amiga up to a few tricks.

This amazing simulation is multimedia at its best, on the Amiga. In other markets, vendors and users are just discovering multimedia. In the Amiga market, innovators such as Bio-Dynamics Corp. of Eugene, Oregon are already moving beyond it.

Bio-Dynamics created the system, now in use at the Ames Research wing of NASA, that uses Amigas to fool pilots into thinking they are flying real, experimental helicopters.

At Ames there are two types of helicopter simulators. There is the Amiga-based system, acting as a cockpit-display simulator, and the more expensive, full-blown simulator. The Amiga system, as a sort of "pre-simulator," cuts down the amount of time a pilot needs to spend in the other simulator, which has a base price of $25 million.

There are currently four Amiga simulator stations, each consisting of three Amigas, which are combinations of Amiga 1000s, 2000s, and 2500s. Two Amigas control the displays, while the other controls a self-paced training system which in turn drives the display systems.

How does this fit into the realm of multimedia? Well, the system displays a combination of text, graphics, animation, and sound. It is also interactive. Bio-Dynamics is working on a new mode that will include captured video, speech recognition and voice output.

When the system was developed, many of the new multimedia authoring systems and applications packages were not even written. So, software development leader Curt Becker, also a PhD in psychology, did the entire project from scratch using Aztec C.

With new, easy-to-use multimedia applications tools, who knows? Maybe you too could be swooping through the skies in an unbelievable flying machine of the future.

—Doug Barney



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HELP KEY

Even Stevie Palmer looks to Lou for answers and guidance.

By Louis R. Wallace

Faster, Faster

Q: *I want to learn to program in assembly language on my Amiga, but can find reference books covering the 68000 and 68020 only. Are there any books on the 68030?*

B. Tofferly
Chicago, IL

A: Yes. Addison-Wesley recently published the *68030 Assembly Language Reference* ($29.95, ISBN number: 0-201-088-76-2) by Steve Williams. Its 763 pages cover the 68000, 68020, and 68030 CPU chips, the 68881 and 68882 math coprocessor chips, as well as the 68451 and 68851 MMU chips. While some of the machine specifics are Mac oriented, most of the code examples are machine independent. I like it. For more details, contact Addison-Wesley, Route 128, Reading, MA 01867, 800/447-2226 or 617/944-3700.

Language Student

Q: *I am a computer engineering student at Auburn University and use Pascal in my courses. Are there any Pascal compilers for the Amiga?*

M. Dortch
Brentwood, TN

A: Although I have not used them, two Pascal packages are available: ISO Pascal ($99.95) from Metacomco and PQ4 Pascal ($79.95) from Pecan Software. Metacomco is located at 26 Portland Square, Bristol, England BS2 8RZ, 011-44-272-428-781. You can reach Pecan Software Systems at 1410 39th St., Brooklyn, NY 11218, 718/851-3100.

Generation Gap

Q: *I traded my A1000 for an A2500. How can I run my older software that was designed for versions 1.1 and 1.2 of Kickstart?*

G. Hatfrei
Atlanta, GA

A: The public domain holds the program you need: SetCPU 1.5 by Commodore's Dave Haynie. While SetCPU's major function is to copy the ROM-based Kickstart into the 32-bit RAM found on the A2500's 68020 card (to increase overall system performance), it also lets you load a disk-based Kickstart into RAM. If you use one of the earlier Kickstarts with this option, at least some of your older programs should work. You can find the program under file number 17780 on PeopleLink (800/524-0100 voice, 800/826-8855 via modem) or on disk number 223 of the Fred Fish Collection (1346 W. 10th Place, Tempe, AZ 85281).

FAX Fix

Q: *Are there any Amiga-compatible FAX machines like those available for MS-DOS computers?*

B. Warren
Buffalo, NY

A: The answer is almost. MichTron displayed a FAX compatible with all Amigas at the winter World Of Commodore Show in Toronto. Although it was not shipping as of December, a company spokesperson said the wait should not be much longer. For an update, contact MichTron at 576 S. Telegraph, Pontiac, MI 48053, 313/334-5700.

Glass Houses

Q: *I use Byte By Byte's Sculpt-Animate 4D for ray tracing, and I am having trouble with the glass texture. My rendered results look more like transparent bubbles than real glass. Do you know of any packages that will properly render solid glass objects?*

J. Brown
Berkeley, CA

A: Turbo Silver 3.0 ($199, Impulse, 6870 Shingle Creek Pkwy. #12, Minneapolis, MN 55430, 800/328-0184, 612/566-0221) has very powerful texture rendering features that allow you to define a wide variety of surfaces, including glass, crystal, and water. If all you need is solid glass, however, the latest revision of Sculpt 4D has a texture called GLASS2, which does generate a solid form of glass.

Established Order

Q: *For Christmas, I got a stock Amiga 500 and a monitor, plus a little money. Which do you recommend I buy first: another floppy drive or more memory? I can't afford both.*

F. Genae
New York, NY

A: By all means, get an external disk drive first. Using an Amiga with one drive is far too irritating. Once you get enough money, you can decide between more memory and a printer. If you plan on multitasking a lot or running large programs, then memory will be very important. ■

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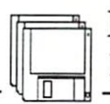
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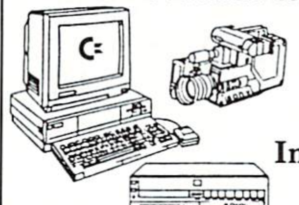
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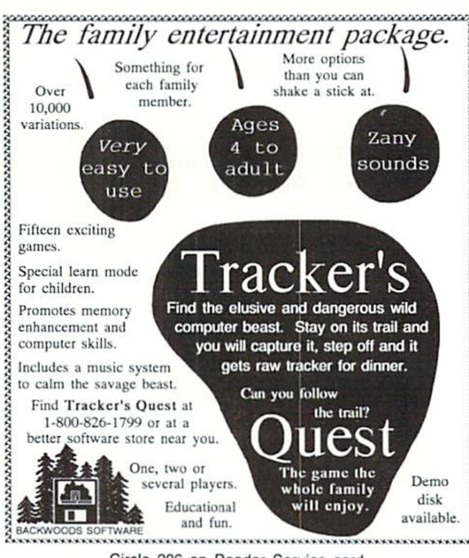
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About the author: Rob Peck is one of the most respected and knowledgeable leaders in the Amiga community. Rob wrote the ROM Kernel Manual, the bible of Amiga developers. Rob is also the author of Programmers Guide to the Amiga and numerous magazine articles.

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Readers Speak

Question of the Month: "How do you feel about software piracy?"

"I call my approach moral piracy. I'm interested in video. How do you justify spending a lot of money on software. . . some of it is really good and some of it is not worth anything. And what about fonts; there's so much duplication. I get programs from my friend. . . if it works, I buy it. I don't feel as though I can trust software companies' claims."

—Anonymous
Greenbelt, MD

"As a consumer, I like to be able to take advantage of friends' software. [On the other hand] having worked in data processing and having written code, an author should get his due."

—Tony Schoenberger
Denver, CO

"It is not as bad on the Amiga as it is on eight-bit systems. Some people want to look at it, some want to test it, and some want to steal it. It is a complicated problem. I like manual protection. I'd rather go through a little aggravation and be able to make a backup."

—Larry Lack
Papillion, Nebraska


SO POORLY DOCUMENTED IS THE SOFTWARE THAT ROY IS BETA TESTING, THAT HE FAILS TO NOTICE THAT THE GAME RULES TO "TWISTER" HAVE ACCIDENTALLY BEEN INCLUDED.

Ear to the Wall

That's being 1-2-3 compatible. During a cocktail-hour discussion with *AmigaWorld*, a high-level Lotus Development Corp. exec let slip this encouraging tidbit: According to the executive, Lotus is now seriously considering porting its 3-D spreadsheet to the Amiga. The firm has an entire team of programmers that ports this C-based baby to everything except microwave ovens. It might not look and feel like the Amiga, but it's one sophisticated batch of code. Our spies report that the folks in West Chester, PA, have been pounding on the big PC-software guns to write Amiga. There's nothing like dangling 1.2 million machines in front of someone to make them pay attention.

Game Machine? Hah! Guess who was at AT&T's recent high-brow launch of Unix 5.4? Commodore. That's right. Commodore shared center stage with three Amigas running this operating system that is so near and dear to the hearts of business, scientists, and government agencies. Our sources tell us that our favorite machine, decked out with a 25MHz 68030 and something like eight megabytes of RAM, was both blazing away *and* attracting a lot of attention.

Free is Fine with Me. Commodore is reportedly kicking around the idea of bundling its multimedia authoring system with its high-end Amigas this spring (did someone say A3000?). The pitch is that the machines would be multimedia-ready as soon as they pop out of the box. Not a bad idea.

Net on the Agenda. Look for lots more local-area-networking activity for our friend Amiga. Commodore has identified connectivity as a key goal—something it needs to have a handle on for those big accounts.

There's a Healthy Attitude. Sometimes when a product is criticized in a magazine review, the company gets mad and does nothing. Other times, the firm accepts the criticism with grace and works hard to correct the flaw. Soft-Logik reportedly is taking the second, healthier approach. When revamping PageStream, its list of goals was nearly identical to the number of criticisms the program had received.

Sound's Good. Mike Halvorsen of Impulse was spotted at Commodore's Comdex booth sporting a voice-recognition device for the Amiga. Apparently the prototype can be trained to recognize four different voices and has an unlimited vocabulary. Can't wait Mike.

Applied Engineering, the leader in Apple II add-on hardware products, is looking to plunge into the Amiga market. Though a definite decision has not yet been made, the firm is contemplating a line of products that would include memory cards, disk drives, accelerator boards, and maybe even a flicker fixer.

So What?!?

Aren't you glad you bought an Amiga?

If you haven't patted Commodore on the back lately, you may want to after reading the next few paragraphs. The following saga makes one appreciate not only the advanced features of the Amiga's operating system, but also its stability.

Though never nice, the battle over operating systems for the IBM PC has become as nasty and twisted as the worst soap opera. If you haven't been following it, here's the dirt: Several years ago (about a year after the Amiga shipped) PC users realized that 640K-bytes of RAM and a single-tasking operating system was not enough. That's when IBM and Microsoft started to develop OS/2, which finally shipped in 1987.

OS/2 was an overbuilt, barely compatible, confusing beast of an operating system that no one wanted. It also had a graphics-oriented user interface, sort of like the Amiga, except not as good.

Microsoft also had another graphics-oriented user interface offering—Microsoft Windows. Nobody really wanted this either, until they saw OS/2. Then Windows took off. Of course, the Windows surge left developers who leapt to OS/2 in the lurch, with no one to sell to. Worst off was Lotus, which put its graphical eggs in the OS/2 basket.

Lotus doesn't mess around, though, and convinced IBM to release a statement that set a limit on how sophisticated Windows could get. Then the bickering began. Microsoft execs said Windows would proceed as planned, while Lotus execs called Windows "neutered." Like the screens of most IBM PCs, this bad mouthing was not pretty. Meanwhile, the customers—who are feeling just a wee bit manipulated—are steaming.

Back at the Amiga ranch, we're still cruising along with an operating system that is sophisticated, and which has been relatively stable for the last four years. Ahh . . .

—Doug Barney

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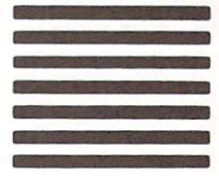
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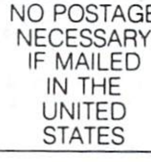
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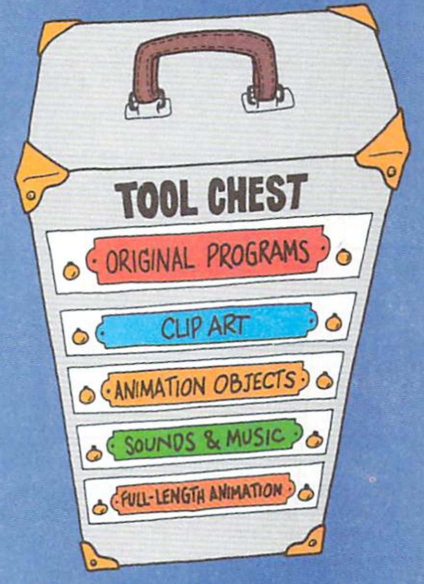
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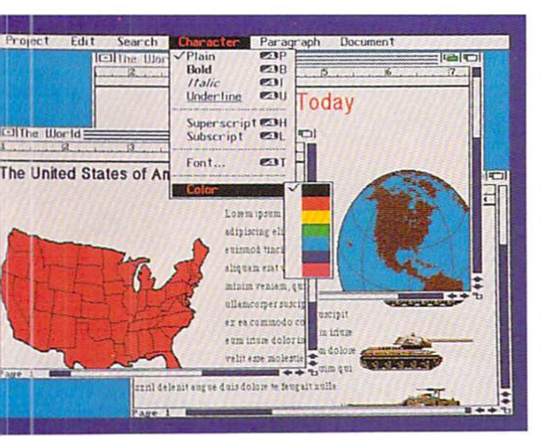
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